SANTA MARIA PROJECT, CALIFORNIA

HEARINGS

BEFORE THE

SUBCOMMITTEE ON IRRIGATION AND RECLAMATION

AND THE

COMMITTEE ON INTERIOR AND INSULAR AFFAIRS HOUSE OF REPRESENTATIVES

EIGHTY-THIRD CONGRESS

FIRST SESSION

ON

H. R. 2235 and H. R. 2259

TO AUTHORIZE THE SECRETARY OF THE INTERIOR TO CONSTRUCT THE SANTA MARIA PROJECT, SOUTHERN PACIFIC BASIN, CALIF.

APRIL 29, 30, AND MAY 19, 1953

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SANTA MARIA PROJECT, CALIFORNIA

WEDNESDAY, APRIL 29, 1953

HOUSE OF REPRESENTATIVES,
COMMITTEE ON INTERIOR AND INSULAR AFFAIRS,
SUBCOMMITTEE ON IRRIGATION AND RECLAMATION,
Washington, D. C.

The subcommittee met at 10 a. m., Hon. Wesley A. D'Ewart, acting chairman, presiding.

Mr. D'EWART. The Subcommittee on Irrigation and Reclamation will come to order.

We have before us this morning identical bills, H. R. 2235, introduced by our colleague, Mr. Bramblett, and H. R. 2259, introduced by Mr. Engle, to provide authorization for construction of the Vaquero Dam and other conservation features of the Santa Maria project, California, by the Secretary of the Interior.

(The bills are as follows:)

[H. R. 2235, 83d Cong., 1st sess.]

A BILL To authorize the Secretary of the Interior to construct the Santa Maria project, Southern Pacific Basin, California

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Secretary of the Interior is hereby authorized to construct the project for irrigation and the conservation of water, flood control, and for other purposes, on Santa Maria River, California, substantially in accordance with the recommendations of the Secretary of the Interior dated January 16, 1953, entitled "Santa Maria project, Southern Pacific Basin, Californai", in relation to the Vaquero Dam and Reservoir and any other conservation feature of the project.

SEC. 2. There are hereby authorized to be appropriated, out of any moneys in the Treasury not otherwise appropriated, such sums as may be required for the purposes of this Act not to exceed $16,982,000.

[H. R. 2259, 83d Cong., 1st sess.]

A BILL To authorize the Secretary of the Interior to construct the Santa Maria project, Southern Pacific Basin, California

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Secretary of the Interior is hereby authorized to construct the project for irrigation and the conservation of water, flood control, and for other purposes, on Santa Maria River, California, substantially in accordance with the recommendations of the Secretary of the Interior dated January 16, 1953, entitled "Santa Maria project, Southern Pacific Basin, California," in relation to the Vaquero Dam and Reservoir and any other conservation feature of the project.

SEC. 2. There are hereby authorized to be appropriated, out of any moneys in the Treasury not otherwise appropriated, such sums as may be required for the purposes of this Act not to exceed $16,982,000.

Mr. D'EWART. Mr. Bramblett, we will be glad to have you make an opening statement if you would care to.

STATEMENT OF ERNEST K. BRAMBLETT, MEMBER OF CONGRESS FROM THE STATE OF CALIFORNIA

Mr. BRAMBLETT. Mr. Chairman and members of the Subcommittee on Irrigation and Reclamation of the House Committee on Interior and Insular Affairs, the Santa Maria project is not a new project. The Bureau of Reclamation completed its report on the water problems of Santa Barbara County in 1944 and at that time recommended authorization of two dams; one on the Santa Ynez River, and the Vaquero Dam on the Cuyama River. At that time, however, when the Corps of Engineers and the State engineer of the State of California commented on the Vaquero Dam, the comments were unfavorable because the dam, as then planned, did not furnish complete flood-control protection for the Santa Maria Valley.

Therefore, the Bureau eliminated the Santa Maria project from the report in order to proceed with the vitally necessary Cachuma Dam on the Santa Ynez River.

Since that date, the Bureau of Reclamation and the Corps of Engineers have done a splendid cooperative work in planning a multiple-purpose dam and levee system to furnish water conservation for the water users of the Santa Maria Valley, and to furnish complete flood control for this very productive area. I have introduced H. R. 2235 and Congressman Clair Engle has introduced H. R. 2259, identical bills which would authorize that portion of the project to be constructed by the Bureau of Reclamation.

I might state that it is the plan of the Bureau that the Vaquero Dam should be constructed first to be followed at a later date by a levee system along the Santa Maria River.

There are five representatives from the local area present. I would like to present Mr. William N. Hollister from Goleta, Calif., chairman of the Santa Barbara Water Agency; Mr. Marion A. Smith, member of the board of supervisors of Santa Barbara County from the Santa Maria area; Mr. L. H. Adam, president of the Santa Maria Valley Conservation District; Mr. John F. Adam, director of the Santa Maria Valley Conservation District, and Mr. T. A. Twitchell, legal representative of that district.

I am happy to say I know some of the committee has been in the area actually on a field trip and are personally familiar with it. I hope—I know all three of you have, and I hope the rest, too.

Mr. D'EWART. Does that conclude your statement?

Mr. BRAMBLETT. Yes, and thank you, Mr. Chairman.

Mr. D'EWART. Mr. Engle, do you want to make a statement at this time?

Mr. ENGLE. Mr. Chairman, I will reserve my remarks for a future time except to say last year we had a subcommittee out to this area, and the subcommittee was myself, Mr. Yorty, Mr. Saylor, Mr. Poulson and Mr. Bow, and subsequently I understand, Mr. Chairman, you have been in the same area, as has Mr. Aspinall.

With that, I would like to defer to the technical witness who is here from the area, and those local people who have come a long, long way to have an opportunity to testify at this hearing.

Mr. D'EWART. We are very happy to have you gentlemen with us. I believe it is your desire to have Mr. John S. Hamilton, planning engineer, Bureau of Reclamation, as the first witness?

Mr. ENGLE. Yes. We have Mr. Dixon and I suggest, Mr. Chair-

man, that since Mr. Dixon is here that we defer him to the last and call Mr. Hamilton who is from Goleta, the technical man who did the planning on this, and then the remaining witnesses, and then Mr. Dixon.

Mr. D'EWART. Mr. Hamilton, will you come forward and present your statement; then we will permit Mr. Dixon to conclude the testimony.

We are very glad to have you here today.

STATEMENT OF JOHN S. HAMILTON, PLANNING ENGINEER, UNITED STATES BUREAU OF RECLAMATION

Mr. HAMILTON. Mr. Chairman, my name is John S. Hamilton. I am project planning engineer for the Cachuma project office, United States Bureau of Reclamation, Goleta, Calif. I have been connected with the Bureau of Reclamation for the last 19 years, in an engineering capacity.

Mr. Chairman, I would like to ask your permission to briefly outline the status of our report at the present time.

Mr. D'EWART. If you will, proceed just as you like, Mr. Hamilton. You may finish your testimony in any way you care to and if you desire we will make this complete statement a part of the record.

Mr. HAMILTON. I would like to have that made a part of the record.

Mr. D'EWART. Without objection, this statement then will be made a part of the record. We cannot include the map, but the rest of the statement may be included. The map will not appear in the record.

(The information is as follows:)

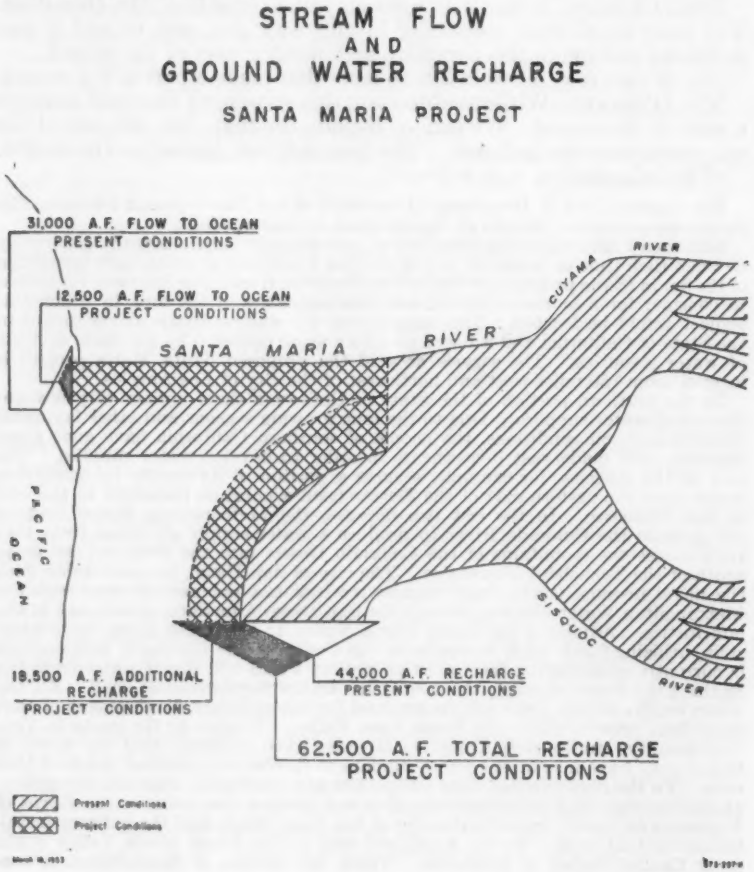
My name is John S. Hamilton. I am chief of the Development Division, Cachuma project office, Bureau of Reclamation at Goleta, Calif.

Although I am aware that members of your committee have already generously devoted their time on occasion during the last 2 years to an on-the-site inspection of the Santa Maria project now under consideration, it would be desirable for review to consider for a moment the regional characteristics of the area in which this project would be located. This map shows the water-resource development of the State of California and is based on information collected by the State division of water resources. The service area of the proposed Santa Maria project is located some 150 miles west and northwest of the city of Los Angeles.

In the southern portion of the State of California there remain very few undeveloped water supplies. Due to the long growing seasons and other favorable climatic and soil conditions, the people of southern California have gone great distances and made vast investments in order to develop water supplies. The city of Los Angeles, for example, secures a portion of its supply by conveying water from the eastern side of the Sierras from a point as far north as the city of San Francisco. In the last two decades, the Metropolitan Water District has gone to the Colorado River to produce a water supply diversion from that river across the mountains of the Colorado Desert into the metropolitan areas south of the Tehachapi Mountains. The city of San Diego, in cooperation with the naval installations in that area, now receives its supplemental water from the Metropolitan Water District through the San Diego Aqueduct constructed in the late forties. Adjoining the Santa Maria Valley to the south along the coastal strip, utilizing funds made available by the Congress, the Bureau of Reclamation is currently constructing the Cachuma project which will divert water from the Santa Ynez River through the mountains to the fertile coastal shelf. All the water supply of this river will be required for the ultimate development of that immediate area including the Santa Ynez Valley. Farther to the south in Ventura County, studies over a number of years have indicated that the rivers of this county have insufficient water supplies to furnish the ultimate needs of that area. To the north, in San Luis Obispo County, during the wartime emergency, another storage and transmountain diversion project was built by the Corps of Engineers to furnish water to the city of San Luis Obispo and the military installations in that area. To the north and east of the Santa Maria Valley is the great Central Valley of California. There the Bureau of Reclamation is con-

structing the Central Valley project which, in effect, makes possible the delivery of surplus water from the northern half of the valley to areas as far south as Bakersfield. It is thus apparent that great effort and unusual methods have been employed to supplement the water needs of the southern portion of California.

In the coastal streams of southern California, streamflow is almost without exception produced by rainfall without the longer sustained flow produced by melting snows. Thus most streamflow is of an intermittent nature, characterized by long dry periods interspersed with infrequent torrential runoff. For this reason, the relatively simple annual storage and canal diversion schemes of development normally associated with reclamation projects are not applicable in this area. I have here a map of the Santa Maria Basin depicting the proposed Santa Maria project. Although this basin averages 90 miles in length and 30 miles in width for a total of 1,800 square miles, only about half of the area contributes significant amounts of water because of the arid condition of the eastern portion. However, over recent geologic time, the flows from the two tributary streams, the Cuyama and the Sisquoc, disgorging upon the Santa Maria Valley floor have built up an estimated 10 million acre-feet of gravels to form an alluvial plain. This plain extends for 20 miles from the confluence of the Cuyama and Sisquoc Rivers to the Pacific Ocean. Over the centuries, the Santa Maria River has meandered back and forth across this plain, producing land ideally suited for agriculture. As the silts, sands, and gravels were deposited, these deposits were filled with water to produce a natural ground water reservoir from which water is now pumped for irrigation.



This chart entitled "Groundwater storage" gives a sectional-block view of the ground water basin underlying the Santa Maria Valley. This perspective is one which would be seen from an elevation of several thousand feet south and west of the town of Santa Maria. The sections are taken as though a gigantic knife had cut the valley on a north-south line just east of the city of Santa Maria and another knife cut had sliced through the western portion of the valley in an east-west direction. The block closest to you has been removed to expose a cross-section of the river and the alluvium adjoining it, as well as an east and west section extending downstream to the ocean. The entire northwest block has been moved to the west in order to expose the cross-section of the river. The recent alluvium, that portion of the water bearing formations which are sufficiently permeable to permit feasible pumping and recharge, is depicted in yellow. It will be noted that the river now flows in the northern edge of the plain against the cliffs of older rocks. Percolation from the river moves downward and southerly to storage in the groundwater basin. As depicted, the groundwater table in 1918 was very much higher than it is today. In fact, in the western portion from that section underlying the clay cap, shown on the diagram in chocolate brown, artesian flow was developed. Today, the groundwater table has dropped to such a point that artesian flow no longer exists anywhere in the valley. East of Santa Maria it will be seen the groundwater table has reached practically the bottom of the alluvium which furnishes the dependable source of water supply. The lowest and heavily dotted line represents the elevation of sea level across the sections. Near the ocean, the water table is approaching sea level.

This valley, sloping gently to the ocean, contains an estimated 50,000 acres of irrigable land, of which almost 40,000 acres are now under irrigation. The presently stable and prosperous irrigated agricultural economy of the area has developed through use of the ground water which has been stored in the gravels over the centuries. Water is pumped from the ground water basin at a rate in excess of that of nature's replenishment and, as a result of this depletion, wells in portions of the area have exhausted their water supply. In addition, pumping costs have increased due to the drop of water levels under the entire valley. Near the ocean, as water levels recede toward sea level, the threat of salt water intrusion into the fresh water supply is increasing.

Due to the porosity and permeability of the gravels making up the stream bed of the Santa Maria River and in spite of the torrential nature of the runoff from the Cuyama and the Sisquoc Rivers, over four-sevenths of the total flow from those streams percolates into this ground water basin. Three-sevenths fail to go underground and thus waste to the ocean. Although water is the life blood of the area, it has not been an unmixed blessing. Occurring most frequently as flood flows, it follows its natural tendency to form new channels at whim across the valley. In spite of local efforts to confine the river to its channel, the flood danger is ever increasing. At points, the river bottom is actually at a higher elevation than the land beyond its banks. Thus it is seen that this area is faced not only with shortage of water for beneficial use but also with a water surplus in the form of undesirable and unpredictable flood flows.

As a proposal to solve the dual problem of water shortage and flood danger, the Santa Maria project plan has been developed jointly by the Bureau of Reclamation and the Corps of Engineers, in cooperation with the United States Geological Survey and the county of Santa Barbara. This plan is a component part of the comprehensive plan for Santa Barbara County described in the Department of the Interior report entitled "Comprehensive Basin Plan, Santa Barbara County Project, California," dated November 20, 1947, and published as House Document 587, 80th Congress, 2d session, under the title "Cachuma Unit of Santa Barbara County Project, California." This document promised that a report would be prepared upon the development of water projects in the Santa Maria Basin. The plan now being presented to your committee is based on that report, completed under the title, "Santa Maria Project."

The excellent characteristics of the Santa Maria groundwater basin with its large available storage capacity determined the plan of development. The conservation works of this proposed project would consist solely of a reservoir to be operated in connection with the natural groundwater basin. As I have mentioned before, because of the sandy and gravelly nature of the stream bed of the Santa Maria River, over four-sevenths of the average streamflow reaching the Santa Maria Valley, under present conditions, percolates into the groundwater basin allowing only three-sevenths of the runoff to reach the ocean. In the conservation plan, there will be no canals, no pipelines, simply a reservoir. The high capacity of the stream bed to absorb water into the groundwater basin led to this unique plan of development.

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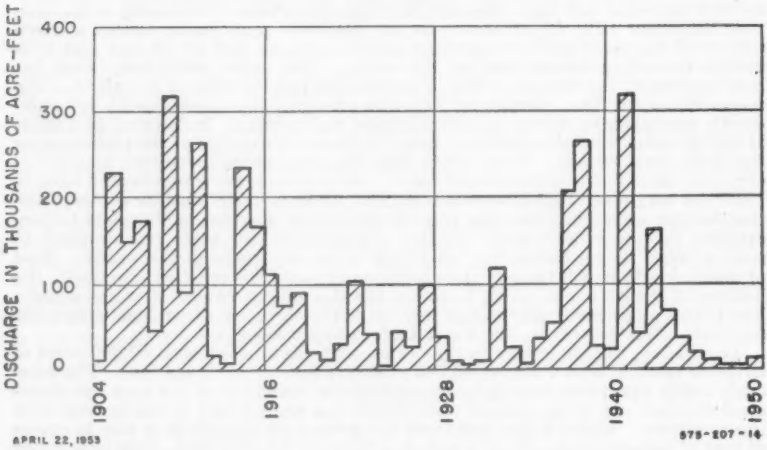
ANNUAL DISCHARGE OF SANTA MARIA RIVER
AT FUGLER POINT



This chart, entitled "Discharge of the Santa Maria River at Fugler Point" presents graphically the fluctuation of the total annual runoff over the period of the last 50 years. Fugler Point is at the head of the Santa Maria Valley immediately below the forks of the Cuyama and Sisquoc Rivers. The amount of runoff for any given year is proportionate to the length of the bar shown for that year. It will be noted that the flows at Fugler Point at the head of the Santa Maria Valley vary from almost nothing in many years to as much as 300,000 acre-feet in 1941. The basic problem then is to conserve by underground storage water available during wet years for use during a dry period when the runoff and underground water recharge are inadequate to meet the pumping requirements without overdraft on the groundwater basin.

As the torrential rains fall on the Cuyama and Sisquoc River valleys, the gates of Vaquero Reservoir, proposed for construction under this plan, would be closed thus holding back the flow of the Cuyama River while the flows from the Sisquoc River continued to pass on through toward the ocean. Thus all of the percolating capacity of the Santa Maria River bed would be available solely for water from the Sisquoc, permitting a larger percentage of the Sisquoc flows to sink into groundwater storage. Later as the flow from the Sisquoc decreases, the outlet gates of Vaquero Reservoir would be opened and detained Cuyama water gradually released from that reservoir in sufficient quantities to permit the maximum of percolation without loss to the ocean. Our hydrologic studies show that, by this method, the average natural recharge from the river of 44,000 acre-feet annually could be increased to an average of nearly 62,500 acre-feet. Under these conditions, there would be sufficient water replaced in the groundwater basin over a period of years to equal the present requirement for water on the 38,000 acres of land presently irrigated in the Santa Maria Valley.

The increased conservation of these streamflows is shown graphically on the chart entitled "Streamflow and Ground Water Recharge." The thickness of the flowlines is a measure of the average annual amount of water passing a particular point in the stream system. The diagram indicates that the average annual flows from the Sisquoc and the Cuyama Rivers are about equal. These flows converge at Fugler Point as they discharge into the percolation area of the Santa Maria River. Over the distance of the next 10 miles downstream, an average of some 44,000 acre-feet of the total flow will, under natural conditions, percolate into the groundwater basin leaving an aveage annual outflow to the ocean of 31,000 acre-feet. However, under conditions of project operation as discussed above, an additional average of 18,500 acre-feet represented by the double cross-hatched area of the curved arrow would be allowed to percolate

into the groundwater basin reducing the average annual outflow to the ocean to 12,500 acre-feet.

As a part of this same project, the Corps of Engineers is jointly recommending a plan which combines utilization of flood storage space in Vaquero Reservoir with levees to be constructed along the Santa Maria River. By temporarily storing flood flows in the flood storage space of Vaquero Reservoir, the estimated standard project flood of 230,000 cubic feet per second would be reduced to 150,000 cubic feet per second. The present safe channel capacity of the Santa Maria River is estimated at 25,000 cubic feet per second. In order for this channel to handle 150,000 cubic feet per second, a total of about 24 miles of levees would be constructed as shown on the map of the basin.

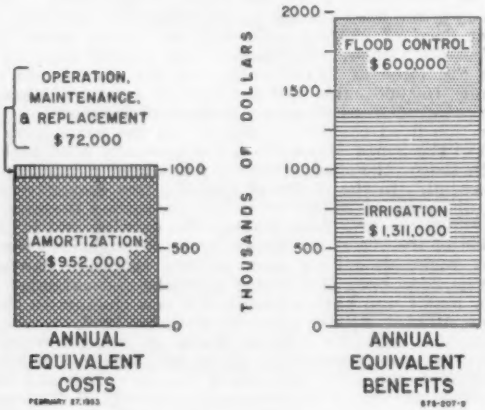
The need for this flood control is critical. As the years have gone by, the present channel of the Santa Maria River has gradually filled higher and higher with gravel until today, the channel capacity has been reduced to about 25,000 cubic feet per second. In the winter of 1951–52, two successive floods with an estimated peak discharge of 25,000 cubic feet per second threatened the city of Santa Maria. When the first flood reached the existing and inadequate levees on the north side of the river, the waters broke through into the Oso Flaco, a very prosperous vegetable raising area, causing extensive damage. Had the storm causing this flood been of a higher intensity and extended over a longer period, the river might well have established a new channel to the ocean north of its present one, all of it through presently irrigated land.

The total estimated cost of the Santa Maria project, for water conservation and flood control, based on present unit prices, amounts to $28,380,000. Of this amount, $16,982,000 is the estimated cost of Vaquero Dam and Reservoir, that portion of the project proposed for authorization under H. R. 2235 and H. R. 2259, which your committee is now considering. The proposed allocation of the estimated capital cost of Vaquero Dam and Reservoir indicates that $13,969,000 would be assigned to conservation and $3,013,000 to flood control. Repayment of the $13,969,000 allocated to conservation would be reimbursable under the provisions of the Reclamation Project Act of 1939 and the annual repayment in 40 equal installments would be $349,200. Including Vaquero Dam and Reservoir operation, maintenance and replacement costs, estimated at $41,600, total annual conservation costs to be borne by local interests would be $390,800. On the basis of a 40-year repayment period, this would average between $10 and $11 annually per net irrigated acre. Payment capacity for irrigation water in the project service area is estimated to range from $65 to $115 per acre. The estimated annual conservation costs are therefore well within the payment capacity of the project. Although not covered by the bills now under consideration, in order to present a complete picture in respect to the ability of the local interests to repay the cost of the total project, it would be well to point out that the annual operation and maintenance costs of the flood-control portions of this plan to the local interests are estimated to be $46,400 and the estimated initial capital cost to the local interests for the flood-control portions of the plan would be $1,216,000. It will thus be seen that the total cost to be borne by the local interests are well within their total repayment capacity.

Although we are for the moment considering the conservation features of the proposed project plan, it should be emphasized that, without the flood-control measures to be recommended in the Corps of Engineers' proposed report, and covered in the Bureau of Reclamation's report on this project, no secure repayment can be assured. The Corps of Engineers has concluded that flood storage on the Cuyama River without levees downstream does not provide adequate flood protection. Should a major flood occur on the Santa Maria River, it would have a disastrous effect on the community and might substantially reduce the repayment capacity of the Santa Maria area for a number of years to come.

Therefore, our economic analysis considers the Santa Maria project as a whole. The results of this analysis are shown on the chart entitled "Comparison of Annual Equivalent Benefits and Costs of the Santa Maria Project." The annual equivalent direct benefits are estimated to total $1,911,000 of which $600,000 is considered to result from flood control and $1,311,000 from conservation benefits. By comparison, the estimated annual equivalent costs of $1,024,000 consist of $952,000 for the amortization of the investment and $72,000 for estimated operation, maintenance, and replacement costs. This results in an estimated benefit cost ratio for the project of 1.87 to 1. I would like particularly to call attention to the fact that this benefit-cost ratio is based on direct benefits to the immediate area and does not include the intangible indirect benefits which have been estimated to equal $1,000,000 as a result of added conservation alone.

COMPARISON OF ANNUAL EQUIVALENT BENEFITS AND COSTS OF SANTA MARIA PROJECT



Mr. HAMILTON. The Bureau of Reclamation at the regional level has completed a report on the project, covered by this bill, entitled "Santa Maria Project, California."

That report was sent to the President and budget by the previous administration on January 16, 1953. The budget quite properly advised Secretary McKay that before taking action upon it, they would appreciate his views. Planning policies have been carefully reviewed and on April 25 Secretary McKay returned the report with supplemental information to the President and budget, and requested that he be advised on the relations of the project to the program of the President.

We have not yet been advised of this relationship nor has the Secretary transmitted the project report, nor the report on the bill to the Congress.

Hence, the witnesses from the Department are unable to state the position of the Department at this time but will be glad to explain the physical and economic features of the project and to answer questions.

My own presentation of the engineering and economic aspects of the project: I will first make an extremely brief summary of what the project is about and then follow it up with highlights of this statement which, Mr. Chairman, you have kindly permitted to be put into the record. I hope you gentlemen will feel free at any point to interrupt me and ask questions which I will attempt to answer. I might say that matters concerning the history of the project and the extent of review to date, will be covered by Mr. J. W. Dixon, Director of Planning, United States Bureau of Reclamation, at a later time, if you would care to hold your questions until that time on those particular matters.

This project is located in southern California at a point 150 miles west and northwest of Los Angeles. If you will turn in this state-

ment to the first map in the back you will find a chart entitled "Major water developments in the State of California."

This chart is based on information furnished to us by the State division of water resources. You will notice that the Vaquero Reservoir of the Santa Maria project is located close to the ocean and north and west of the city of Los Angeles.

In this project area we have some 40,000 acres of irrigable land and several communities, all of them small but typically of the agricultural type. The purpose of the project is to furnish flood control and additional recharge to the ground water basin which furnishes all of the water for irrigation in this area.

The works in this bill are confined solely to a reservoir, the Vaquero Reservoir with a capacity of 214,000 acre feet. There will be no canals in connection with the conservation features nor in the flood-control features. As far as this bill is concerned the levees for flood control are not included. They would be a part of the project but are not a part of the bill presently under consideration by your committee.

The total cost of Vaquero Reservoir has been estimated on a conservative basis utilizing current unit prices, and by that I mean unit prices repriced in the last 2 months, at $16,982,000. This project, gentlemen, has a benefit-cost ratio based on direct benefits alone, not considering benefits to the Nation as a whole, of 1.87 to 1. If the indirect benefits of irrigation alone were considered, the benefit cost ratio would be 3.0 to 1.

Repayment for the project will be recommended on the basis of 40 years under a 9 (d) type contract, 40 equal installments of $350,000 apiece.

These can be covered by annual taxes of $9 an acre, on the 40,000 acres to be benefited by the supplemental water supply proposed under this project.

Operation and maintenance would be paid for by the local people, independently of the repayment for the construction costs. The operation and maintenance costs are estimated at $41,000 a year or $1 an acre, making a total cost of $10 annually to the local people for the conservation features of this project.

Can the people repay this amount? Our conservative estimates on this point indicate that the repayment capacity per acre in the Santa Maria Valley is $105. The crops raised in this area are primarily truck and other row crops. There are very few orchards.

Mr. ENGLE. Talking about crops do you have anything to say about strawberries they grow down in that section?

Mr. HAMILTON. Congressman Saylor I think would be better qualified to speak on the discoveries of strawberries from this area but it does happen that among the row crops are fairly substantial acreages of strawberries which are shipped out fresh.

Mr. ENGLE. Those are the ones that are big as crabapples?

Mr. HAMILTON. That is correct. They are the ones which members of your party had the pleasure of eating.

Mr. HAMILTON. This project has been developed not by the Bureau of Reclamation alone but with planned in close cooperation of the Corps of Engineers who are now processing a similar report on the flood-control features of the project. However, those features are not

covered in this bill. Further cooperation was given by the United States Geological Survey and the county of Santa Barbara. The county of Santa Barbara, incidentally, contributed substantial funds toward the general investigation. That is a thumbnail sketch of the project.

Getting into it in a little more detail, if you will refer to the map in the front of my statement, you will find an outline of the Santa Maria Basin, which is also shown here on this wall chart. You will notice the basin is rather extensive in area, 90 miles long from its mouth at the ocean to the highest point in the watershed. The elevation at the highest point being 6,000 feet. Total area of the watershed is 1,800 square miles. On the average those 1,800 square miles do not account for very much in runoff, since about one half of the total area contributes nothing to the downstream runoff. Such waters as occur high up in the watershed disappear in the gravels of the upper area. The main stream contributing to the flow of the Santa Maria River is the Cuyama. A slightly lesser tributary is the Sisquoc.

The principal areas presently under irrigation are at the mouth of the river, extending some 25 miles from the confluence of the Cuyama and the Sisquoc Rivers to the ocean. There are 40,000 acres there. I am rounding my figures off. Actually that figure should be 38,200 acres presently under irrigation in this area. Figures which were furnished to your committee previously I understand gave a figure of 35,700. A recent survey of the last month indicates that another 2,500 acres have gone into irrigation, using sprinklers.

All of the water supply for this area is secured by pumping from the ground water basin. Our plan is to supplement that supply.

Mr. ENGLE. Just to get the case before the committee, what you are doing is catching the floodwaters up here on the river then letting the floodwaters go down the river without building any canals and feeding the underground water basin which is then pumped out?

Mr. HAMILTON. That is right.

Mr. ENGLE. There aren't any canals in connection with this project, the river itself acting as a canal to take the water down from which it seeps into this underground water stream?

Mr. HAMILTON. That is correct.

Mr. ENGLE. Will you a little later tell us something about the hydrology of that area which makes that possible?

Mr. HAMILTON. I will do that.

Mr. ENGLE. Thank you very much, Mr. Hamilton.

Mr. HAMILTON. The interesting aspect of this valley here is that over geological time the outpouring of the torrential streams created by flood flow in the desert some 10 million acre-feet of gravel has been deposited to form this flat alluvial plain at the opening. Not only has gravel been deposited there but also water has filled the voids. It is this water which people are pumping out of the spaces within the gravel and sand.

I have over here a section of the ground water basin to show these gravels which are filled with water. In order to visualize the picture we have here, here is Fugler Point at the head of the valley [pointing]. You see the city of Santa Maria 10 miles west and then 10 miles further west the mouth of the river at the ocean. A sectional cut has been made by assuming an observer is suspended in the air south and east of Santa Maria at an elevation of say, 2,000 feet; a gigantic knife

has cut the valley north and south on a line through the city of Santa Maria and another gigantic knife has made a cut through the valley east and west. Finally, after those cuts have been made a block has been removed exposing the north-south section of the valley. Here we have the river section, here [pointing] is the recent alluvium shown in that vertical cut. Likewise, here [pointing] we see a vertical cut through the ground water basin, from Santa Maria to the ocean. It will be noticed that there are two lines representing water levels, shown on this chart. Incidentally, gentlemen, this chart is shown as the second one in the back of my statement, the identical chart on a small scale. That copy may be a little easier for you to follow.

Rather than generalizing on ground water basins I would like to say that this particular basin has ideal characteristics for flow of water from the surface streams into the ground water storage. In the first place, there are some 170 feet of thickness of recent gravels with relatively little watertight clay in them. The stream bed of the river is so porous, that, in spite of the torrential rains followed by rapid runoff, when water hits this porous stretch of the river, large volumes go underground. It goes to underground in very large quantities, and that has been the good fortune of this area in that when there have been flood flows a substantial part has gone underground but not enough.

At the present time under the existing natural conditions, and I might add there are no physical works on this river to date, four-sevenths of the average annual runoff finds its way into the ground water basin and only three-sevenths goes to the ocean, but water is dear in southern California and the object of this project is to salvage that three-sevenths of the average annual runoff which escapes the percolating beds and finds its way to the ocean.

As irrigation pumping has gone on, the rate of recharge to ground water basin which presently equals about 50,000 acre-feet has been insufficient to make up the pumping draft. Over the last few years the pumping draft has averaged about 64,000 acre-feet.

Mr. ROGERS. If the gentleman will yield right there, Mr. Chairman, I wanted to ask about the three-sevenths or four-sevenths of the water that comes down here which you say goes into the ground and only three-sevenths goes into the ocean. Is this four-sevenths the water that is being presently used to supply your underground supply with which they are presently irrigating?

Mr. HAMILTON. Yes, sir.

Mr. ROGERS. What I am wondering about is how the flood control portion of this $28 million would be justified under such circumstances, or such figures as that.

Mr. HAMILTON. The answer to that is that we are dealing with acre-feet average annual flow. The floods that come down, come down with great intensity, up as high as 200,000 cubic feet a second and those floods are very infrequent. They go out to the ocean and don't yield very much water but they do an immense amount of damage.

Mr. D'EWART. I would like to ask too, how is your reservoir going to hold this water when the bottom of it is so porous?

Mr. HAMILTON. The porous beds lie down in the lower section of the river, from this Fugler point on to the ocean, are where the porous beds are located.

Up here at the dam site, the beds are shallow and scarcely connected with the main underground body.

Because of this overdraft on the ground water basin, from 1918 to 1950, water levels have dropped as much as 40 feet in the area near the ocean and as much as 80 feet in the areas east of the town of Santa Maria.

In fact, the levels have dropped so low in the eastern section that just before the heavy runoff of a year ago the ground waters had receded completely from the recent alluvium at a number of points, so that the farmers found it necessary in many cases to abandon irrigation, until there was enough recharge from the river in the last floods to again have some water to scrape out of the bottom of the barrel.

Mr. ENGLE. Are you getting any salt water intrusion from the ocean by reason of that dropping water table and is there any danger of that?

Mr. HAMILTON. Congressman Engle, there is a substantial danger of it although we haven't gotten it yet. The water level still remains about 10 feet above sea level. That is the fresh water level at the ocean, but that leads us to another rather unusual characteristic of this ground water basin. In the lower 10 miles of the basin, the gravels are not exposed at the surface by are covered with a clay cap, so that the thickness of the gravels is considerably reduced; not only that but the river bed itself is underlaid by clay in such a manner that the water cannot percolate substantially in that area.

That means that water reaching wells in the area around Guadalupe, this area near the ocean must come from two directions:

It either comes from the upper portion of the valley or as the level drops it is going to be fed back in from the sea, so that this, in direct answer to your question, this area is in danger of salt water intrusion.

Of course, accompanying these more important points of lack of water or the danger of salt water intrusion is the overall increase in pumping throughout the area as the levels drop.

I have here a chart showing the hydrology of the Santa Maria River. I thought particularly for you gentlemen who are from the East this chart might be rather illuminating. It represents the natural flows at Fugler Point, the point where the Cuyama River and the Sisquoc join to disgorge out onto the Santa Maria plain.

Each one of these bars represents the total acre-feet of flow for the particular year and it covers a 47-year period from 1904 to 1950. You will notice that the flows vary from practically nothing in a number of years down here, where we have far less than 1,000 acre-feet of runoff to runoffs as high as 325,000 acre-feet in the year 1941. Interestingly enough a high-peak discharge to create flood flows occurred in 1938 although the total runoff was less in that year.

The point to this chart is this:

That we have a ground water basin with a storage capacity conservatively estimated at better than a million acre-feet of space now evacuated and available for storage.

In years of heavy runoff the scheme of this conservation project is to put water underground in a much larger volume than will be required for use in the following year, but which can be used during dry years when the recharge to the ground water is unsufficient to meet the demands of those years.

Mr. D'EWART. Would that leak out through your alluvial plain down under the clay area next to the ocean? Would you have to have a dike to hold that? On your chart the alluvial plain reaches down to the ocean. Salt water could come back in.

Mr. HAMILTON. There will be an increase in seepage, but not substantial. At the present time the USGS estimates the seepage to the ocean amounts to about 11,000 acre-feet annually. As you pointed out the seepage is a safety valve for that area in keeping the salt water back. As we build the levels up it is estimated that if and when they reach the levels of the 1918 water table, the discharge to the ocean at that time would be about 15,000 acre-feet.

Those figures are already in the computation of the safe natural yield of the ground water basin.

Mr. SAYLOR. Mr. Hamilton, in view of the amount of water that flows down that stream, and the amount that is being used for irrigation seepage, how long do you estimate it would take for the underground water storage to reach its 1950 level?

Mr. HAMILTON. That would be entirely a question of the sequence of runoffs. On the average, we are not going to have any permanent reinstatement of the 1918 level, as a matter of fact, due to the increase in irrigation in that area, the estimate is that the natural yield of the ground-water basin, 50,000 acre-feet, plus 18,500 acre-feet of additional recharge which could be secured through the operation of the project, will exactly equal the long-term demand on that reservoir by land presently under irrigation. That is utilizing the project works as proposed under this bill.

Mr. ASPINALL. Mr. Hamilton, maybe you have already referred to it but I don't have it in my mind yet: just how do you intend to release the waters from the reservoir in order to discharge them into the underground reservoir?

How will that be done?

Mr. HAMILTON. That is a very appropriate question at this point, Congressman Aspinall, and I will get right to it.

The proposal is to construct a reservoir of 214,000 acre-feet capacity at the Vaquero site 7 miles northeast of the city of Santa Maria. This reservoir will serve two purposes. The first will be to provide 125,000 acre-feet of silt and irrigation conservation storage and the other, 89,000 acre-feet of storage for flood control, which I will touch on later.

Dealing with the 125,000 acre-feet for silt and conservation storage, the operation of the reservoir, the surface reservoir in combination with the ground-water reservoir will be this:

First, when the floods hit, there will be an empty reservoir. The gates will be immediately closed on the Vaquero Reservoir and only the flows of the Sisquoc allowed to pass down the Santa Maria River. That means all of the percolating capacity of the natural riverbed will be available for Sisquoc flows with no competition from the Cuyama flows because those flows will be held back in this detention reservoir. As the flows in the Sisquoc recede until they no longer equal the percolating capacity of the riverbeds then the gates on the Vaquero Reservoir will be gradually opened feeding Cuyama into the river channel so that too can go under ground. Our computations show at no time will there be water in the reservoir after the first of September of any

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given year. By that time the water in the reservoir will have been completely released and transferred from the surface reservoir into the underground reservoir. I would like to emphasize the point that more flows from the Sisquoc will now go under ground under project conditions than would go under in natural conditions, because in the early stages of runoff, the Sisquoc does not have to compete with the Cuyama for percolating space.

Mr. ASPINALL. Designate for me the place on the map where the surface flow will disappear.

Mr. HAMILTON. The surface flow, depending on the volume, will start to disappear at Flugler Point, the point of confluence of the Cuyama and Sisquoc. It will continue to disappear until it reaches a point about 5 miles west of the city of Santa Maria. It will disappear at rather a rapid rate, a minimum of 300 second-feet can be absorbed by this ground water basin before outflow to the ocean occurs.

Mr. ASPINALL. In your former testimony you suggested that practically all of the upper flow of the Cuyama River went under ground, and that this reservoir was for water falling some place in between that and the reservoir site. Where does that water that goes under ground up above finally get out from under, or what happens to it?

Mr. HAMILTON. That is typical of a desert ground-water basin. At this point, above midway between the headwaters of the Cuyama Basin and the Vaquero Reservoir, the ground-water basin presently discharges water in the form of springs. This is not the same ground-water basin we are talking about down in the Santa Maria area, it is another upper ground-water basin. The precipitation in this area averages about 11 inches so practically all of the flow disappears under ground except once in about 25 years when a little flow passes beyond the upper basin. The depth of ground water in that upper basin is approximately 250 feet below the riverbed, very porous and water just practically drops right out of sight in that region.

There is one other point that I would like to add here. I have mentioned that our present estimates show, and when I say present I mean as of the last 2 months, that the safe yield at the ground-water basin under project conditions will just equal the average annual irrigation demand but we do have a means available to the local people under this project should they care to develop additional water and that is by the creation of spreading beds along the river which would therefore increase the percolating capacity of that riverbed. Because of the torrential nature of these streams here and the steep slope it is impossible to build spreading beds without getting flood control on the Cuyama River and to hold back some of the major flows.

Mr. YOUNG. What do you mean by spreading beds?

Mr. HAMILTON. I am sorry, I used a technical word. A spreading bed, in the engineers' language of the Far West is an area of a river channel flattened out to allow water to be stored very temporarily but to spread it out over a wider area so it will percolate more rapidly.

Now as I mentioned before, flood control is not part of the bill under consideration by your committee at the present time; however, I think that it is so much a part and parcel of a problem in the Santa Maria Valley that I would be remiss in not mentioning it as part of this discussion and statement.

The Santa Maria River has had 10 major floods in the last hundred years. The maximum one is estimated at 200,000 second-feet. It must be borne in mind that this valley was created by floods. Typical of desert streams, as flood flows come down, the river tends to form new channels. For the last hundred years the river has flowed along the north side of the valley against the cliffs for two-thirds of the distance and then finally meandered right across the alluvial plain and out to the ocean but the contours of that land, the shape of that land shows definitely that within the last few hundred years the river has at one time flowed in this direction [pointing] through here. Within memory of man there was a time when it flowed out to the ocean right through 10,000 acres of rich agricultural land in this area. That is the Oso Flaco, north of the river near the ocean.

The river is just about ready to make another one of those jumps out of its bank. The local people have spent some little money on flood control within their resources, but they have only been sufficient to stave off the day when a major catastrophy from floods is going to occur for this reason: the city of Santa Maria is now at an elevation of 20 to 30 feet below the stream bed level at a point north and east of the city; with a very minor flood of 2 years ago the city barely was able to hold this minor levee at this point to keep the water out of the city itself.

Down in this lower area here, the Oso Flaco, the river did jump out of its banks. There the bottom of the stream is 2 feet higher than the agricultural lands adjoining it. That water rushed out across the valley and only the cessation of rain prevented a major disaster in that area at the time. Chances are had the flow been very much bigger the river would have cut a channel for itself out to the ocean, following its old historical course.

I don't pretend to appear before this committee and discuss in detail all of the Corps of Engineers plan for flood control here, but I think it would be of interest to hit the high points of how they propose to protect this valley.

Mr. D'EWART. I think you should do that, Mr. Hamilton.

Mr. HAMILTON. The Vaquero Reservoir, as I mentioned earlier, is proposed to have 89,000 acre-feet of capacity reserved for flood control. The way the reservoir would operate for flood control would be to hold back the flows of the Cuyama while allowing the Sisquoc flows to go through. The corps estimates that that will reduce the standard project flood peak from 230,000 cubic feet a second to 150,000 cubic feet a second. Remember, the channel capacity today in this stream is only 25,000 cubic feet a second so that something more would have to be done than mere reservoir storage. The corps proposes a system of levees of some 24 miles along the river plus about 3 miles of levees along a tributary stream here, as a means of raising the channel capacity to 150,000 cubic feet a second, thus allowing the flood flows to go through without endangering the valley as a whole.

Local people are familiar enough with this situation to recognize that because of the flat slope on this plain—I could illustrate it this way—imagine that this sheet of paper is the Santa Maria plain; north and south, as you walk across you would be walking on a level line; but east and west that plain slopes at 17 feet to the mile. Up here where my finger is at the upper end of the plain is the point which

we could consider would be Flugler point. At the present time the water is meandering around like this in its existing channel but the water can cut through at practically any point and establish a new channel. From where it is now on the north side clear over to the south side of the valley is a potential channel area, simply because the plain is level in the north-south direction, perpendicular to the direction of flow.

The Corps of Engineers estimates that the construction of these levees, and the reservoir, would result in obviating flood flow damages estimated at $630,000 a year.

Mr. D'EWART. May I ask a question? When you build this reservoir and take the silt out of at least that fork of the river won't the main channel tend to channelize and there will be less danger from the river?

Mr. HAMILTON. Yes. I think that is one of the thoughts of the corps. That by channelizing they will be able to get these flows to move downstream. Equally important along that line would be the construction of the Vaquero Reservoir, which will of necessity trap the silts and gravels being brought down the Cuyama which is the main contributor of those debris flows.

Mr. ENGLE. Do I understand Mr. Hamilton that this project has been worked out in correlation with the engineers and they have reported on the levee portions while the Bureau has worked out the reservoir and the area features?

Mr. HAMILTON. That is correct.

Mr. ENGLE. The engineers have filed a report, a favorable report, on flood-control features as has your agency on the other features?

Mr. HAMILTON. That is correct.

Mr. ENGLE. Is it correct also that the State engineer has reviewed the data and the correlation of the two at the State level and commented on the joint plan favorably?

Mr. HAMILTON. That is correct.

Mr. MILLER. May I ask a question?

Does this plan you are preparing here complete the Corps of Engineers plan or is it a duplication?

Mr. HAMILTON. It completes the plan. It is a joint plan, which is worked out.

Mr. MILLER. Isn't there some duplication also?

Mr. HAMILTON. There is no duplication whatever in this plan, Congressman, to the best of my knowledge. We are making identical recommendations. In working up the plan through these investigations stages they worked on the flood-control portion of it and we worked on the conservation portion.

Mr. MILLER. You correlate your work and exchange information?

Mr. HAMILTON. Yes, sir, very definitely.

Mr. ROGERS. Mr. Chairman may I ask a question?

Mr. MILLER. Mr. Rogers.

Mr. ROGERS. Has any thought been given to combining the whole project under one cost and making the entire sum reimbursable? Would it be feasible under such approach?

Mr. HAMILTON. We have a total project and total estimated costs.

Mr. ROGERS. That is $28 million?

Mr. HAMILTON. That is the $28 million. I seriously doubt whether the people in that area would be able to afford to pay for a project of that magnitude.

Mr. ASPINALL. May I ask, Mr. Hamilton, has any consideration been given to putting another reservoir over on the Sisquoc River and do away with the necessity of so much levee?

Mr. HAMILTON. Yes. We made a study of that as an alternative. In fact that was considered in one of our earlier basin studies for Santa Barbara County. The drawback to it is this:

That the only feasible dam site on the Sisquoc is at a point some 15 miles from its mouth at Fugler Point. There is a substantial inflow from the LaBrae Creek and several of these small tributaries so enough of a flood could originate above in that 15 mile reach so levees would be required in the valley anyway.

Furthermore, we considered the possibility of building a reservoir at Fugler Point itself. The foundation conditions there are very poor. It is a weak, shaley foundation. Worse than that, the construction of a reservoir at Fugler Point will inundate some 2,000 acres of class 1 rich agricultural land and that is just robbing Peter to pay Paul.

Mr. SAYLOR. Mr. Chairman, I would just like to ask a few questions of the engineer, Mr. Hamilton.

Mr. Hamilton, the time I have been on this committee you have never appeared before it to the best of my knowledge; while I did meet you in California, is it correct you have never appeared before this committee?

Mr. HAMILTON. That is correct. As a matter of fact this is my first official appearance in Washington.

Mr. SAYLOR. I believe then we ought to get a little on the record as to your background.

How long have you been with the Bureau of Reclamation?

Mr. HAMILTON. I have been with the Bureau of Reclamation for 19 years.

Mr. SAYLOR. And what is your present capacity?

Mr. HAMILTON. I am now planning engineer for the Cachuma project office at Goleta, Calif.

Mr. SAYLOR. What is your technical background?

Mr. HAMILTON. I spent 5 years in the design office of the design division for dams in Denver. In my early days with the Bureau, spent 2 years on the construction of Shasta Dam, 5 years out for military service and then 5 years, 3 as chief, in the dam section of the region 2 design office in Sacramento, before the last 3 years as planning engineer at Santa Barbara.

Mr. SAYLOR. You are a graduate engineer?

Mr. HAMILTON. Yes.

Mr. SAYLOR. From what school did you graduate?

Mr. HAMILTON. I graduated from the University of California in 1930.

Mr. SAYLOR. What degree do you hold from there?

Mr. HAMILTON. Master's degree.

Mr. SAYLOR. In what, civil engineering?

Mr. HAMILTON. Yes.

Mr. SAYLOR. I might say to you, Mr. Hamilton, that it is refreshing to have an engineer come here and give us straightforward answers. I can tell you very frankly that from sitting up here and listening to the comments of some of the other members, we are delighted to have you before us because I can say that some of your

contemporaries, at least from the Washington office, do not bear the same recommendation as far as this committee is concerned.

One thing we have found that some of them are the best members of the Ananias club that it has ever been our privilege to meet. It is a pleasure to have you here and to give us some straightforward answers, not try to cover up for anybody or anything.

I am delighted to welcome you before this committee as one of the members.

Mr. HAMILTON. Thank you for the comments as they apply to me.

Mr. REGAN. Mr. Hamilton, I know so little about this, but now you propose putting in a $28 million plant to serve 40,000 acres; is that right?

Mr. HAMILTON. That is the plan; yes.

Mr. REGAN. What percent of those 40,000 acres are now in cultivation?

Mr. HAMILTON. Thirty-eight thousand three hundred acres by a survey of 2 weeks ago are under cultivation at the present time.

Mr. REGAN. In other words this reservoir will not add very much to the tillable lands?

Mr. HAMILTON. It will not.

Mr. REGAN. It will be at a cost of about $750 per acre?

Mr. HAMILTON. That is right.

Mr. REGAN. The proposed charges here of your levee and dam will amount to about $750 an acre, on land that is already now in profitable cultivation, so they are adding that much of a debt to the present owners of that land?

Mr. HAMILTON. Yes. That is correct, sir.

Mr. REGAN. What percent of that debt is going to be repaid to the Federal Government?

Mr. HAMILTON. Of the total plan, $14 million in round figures will be repaid. I believe the exact figure is $13,950,000.

Mr. REGAN. About 50 percent of it will be repaid and 50 percent will be at the cost of the Government; in other words the Government repaying $375 per acre to continue that land in profitable cultivation; is that right?

Mr. HAMILTON. That is correct, on the basis that we have an agricultural community here which we have.

Mr. REGAN. You have a chart there saying the annual discharge of the Santa Maria River at Fulger Point, the elbow there, how many years does that span cover?

Mr. HAMILTON. This covers a 50-year span.

Mr. REGAN. Of those 2 years out of the 50 you had in excess of what is that, 300,000 acre-feet of runoff at Fulger Point?

Mr. HAMILTON. That is right. That was the year 1941.

Mr. REGAN. What is average discharge for the full 50 years?

I see some are practically nil and in 2 years they are up in excess of 300,000 acre-feet. What is the average runoff per year?

Mr. HAMILTON. The average runoff is 75,000 acre-feet. I have a chart here, Congressman, that might help us on that.

This chart is drawn to depict the flow graphically of the stream system from Fugler Point on to the ocean. The distance between the two outside lines is proportional to the average annual flow. The flow at Fugler point, this thickest section averages 75,000 acre-feet

a year. Half of it comes from the Cuyama and the other half on the average from the Sisquoc.

Under natural conditions 31,000 acre-feet of that average 75,000 acre-feet of flow would pass on out to the ocean; 44,000 acre-feet of it would be absorbed on the average into the ground water basin, average annual figure.

What our project proposes to do from a conservation standpoint would be to take an average annual amount of 18,500 acre-feet of this 31,000 going to the ocean, and force it to percolate underground instead of escaping to the ocean, thus increasing the recharge from the river to 62,500 acre-feet a year.

Mr. REGAN. Don't you regard that as a rather high cost to salvage 18,000 acre-feet of water a year, at a cost of $28 million?

Mr. HAMILTON. We have two phases to this Congressman. There is the conservation phase, and that will cost $20 an acre-foot, per acre-foot of new water that would be available in the ground-water basin. Then on the other side we have the flood-control aspect, and being from Reclamation and not understanding the policy on flood-control I would hesitate to comment on that aspect of it.

Mr. REGAN. You said the average flood damage is $600,000 a year, or is that just the 2 years that you had a tremendous runoff?

Mr. HAMILTON. That is the average annual. The corps estimates that in a year where a flood would have reached 200,000 second-feet as it did in 1868 the damage would be in excess of $10 million from one flood.

Mr. REGAN. It would have been?

Mr. HAMILTON. Yes.

Mr. REGAN. In other words, over the 50-year period there has been a $30 million damage in the valley?

Mr. HAMILTON. There will be in the future under present conditions as developed; that is correct.

Mr. REGAN. This reservoir that you proposed will have a capacity of how much?

Mr. HAMILTON. 214,000 acre-feet.

Mr. REGAN. How much have you allowed for silting?

Mr. HAMILTON. 45,000 acre-feet. That should take care of itself in the next 50 years, including the repayment period.

Mr. REGAN. 45,000 would take care of silting for the next 50 years?

Mr. HAMILTON. Yes, sir.

Mr. REGAN. So silting is not really a teriffic problem?

Mr. HAMILTON. No, it isn't, not over the 50-year period. It is a problem which we have to face.

Mr. REGAN. Since your reservoir and this $28 million expenditure is to have for its main purpose percolation of this water into the underground reservoir which is now being used as a source of supply, wouldn't channelization of this stream below Fugler Point accomplish the same purpose?

Mr. HAMILTON. I am afraid I don't understand your question.

Mr. REGAN. You say the silting of the riverbed has arisen. You point out it has been dropped 17 feet per mile, 24 miles; so back up to Fugler Point evidently then it is some 400 feet higher than it is at the outlet into the ocean?

Mr. HAMILTON. That is right.

Mr. REGAN. If you had the dredging of that 24 miles, wouldn't it accomplish the same purpose as the levees and the flood-control program?

Mr. HAMILTON. Congressman, could I ask your indulgence to ask that question of a gentleman we have here from the Corps of Engineers?

Mr. REGAN. Yes, sir.

Mr. HAMILTON. It is out of our field.

Mr. REGAN. Thank you very much.

Mr. HAMILTON. Thank you.

Mr. ENGLE. Do I understand, Mr. Hamilton, that the flood-control features have to be separately authorized, so far as those levees are concerned; It would be separately authorized in a separate bill? They are not included in this measure; is that correct?

Mr. HAMILTON. That is correct.

Mr. ENGLE. So far as the project features in this measure are concerned, will you state just briefly what portion of the capital invested which is involved, in the portion you are testifying about, is reimbursable?

Mr. HAMILTON. The total investment is estimated at $16,982,000; $13,969,000 will be reimbursable. The remaining $3 million is an allocation for flood control. That is the amount of benefit to flood control which is secured from the reservoir. It is figured out on what I consider to be a very equitable basis of distribution of the cost. As you see, the cost of the reservoir finally wound up to be almost entirely reimbursable.

Mr. ENGLE. In other words, so far as project features you are testifying about, they are in large percentage directly reimbursable. The other features authorized will be authorized in another committee based upon the economics of those levees?

Mr. HAMILTON. That is right.

Mr. REGAN. Mr. Chairman, may I ask this in connection with Mr. Engle's question; this $16,900,000 is the overall cost of your proposed reservoir, of which thirteen-million-something, will be repaid to the Government and the 3 million charged. How recent is that estimate? We have had some estimates here that started off very mildly. How well can this committee count on that being the overall cost when it is completed?

Mr. HAMILTON. That estimate was prepared in October in 1952, 6 months ago. It was reviewed in February of 1953. We found that on a current price base, the estimated cost might drop 1 percent, but we didn't consider that significant so that it is substantially a current cost estimate.

Mr. REGAN. What is your item for housing for the employees while this construction is going on? What does that item amount to?

Mr. HAMILTON. There is an item in there for $300,000, but I want to interpolate the remark that as far as policy is concerned in region 2, and I think it probably applies elsewhere in the Bureau, there will be no housing at this project.

Mr. REGAN. You do have 300,000 and you do not expect to need any part of that 300,000?

Mr. HAMILTON. That is correct.

Mr. REGAN. You are confident you will not go beyond the 300,000?

Mr. HAMILTON. Yes. I think I can say that with complete confidence because we have a similar plant at Cachuma Reservoir which is just completed and it cost less than $300,000.

Mr. REGAN. Thank you.

Mr. PILLION. This dam construction, Mr. Hamilton, is that feasible from an economic and financial point of view, if built independent of the levees and the flood control? Is it a feasible project without the following flood-control features of the levee?

Mr. HAMILTON. Yes. It is our opinion it would be feasible. We are not recommending it because we feel the economy would suffer rather severely if there were not levees. It will furnish a very small amount of flood control by itself. It will take care of the minor floods, but there is not enough capacity in the reservoir and since we do not control the Sisquoc we have no control on the floods from that stream.

However, I think I would express the opinion, not backed up by our economists that there still is enough of the repayment base in the Santa Maria Valley to justify the construction of the reservoir for conservation alone.

For example, the estimated benefits, average annual equivalent benefits from irrigation amount to $1,300,000 a year. Now, the annual equivalent cost for that would be in the neighborhood of $500,000 a year, giving a benefit cost ratio of about 3 to 1.

Mr. PILLION. In other words, it would be of some slight assistance insofar as flood control is concerned?

Mr. HAMILTON. Yes. It would be of slight assistance.

Mr. PILLION. With relation to the $300,000 for construction, if you do not contemplate putting in moneys or using moneys for construction, why is it in your estimates? Why do you put $300,000? That is a lot of money. Why do you put $300,000 in it if you don't contemplate putting up construction camps?

Mr. HAMILTON. There are several reasons for that. In our past experience, particularly in the middle forties, when this area was under pressure for military development, it was almost impossible to get housing. We couldn't bring in our crews to go at all, let alone to get the job done. That was the reason, for example, we built the camp at Cachuma. So, rather than being on the low side with our estimates, we would prefer to show a figure in there, but we do have the aggressive policy of not building camps unless it is absolutely necessary to get the job done.

Mr. PILLION. This is 1953. This is not in the middle forties. $300,000 is still money.

Mr. HAMILTON. I wish——

Mr. PILLION. If you revise your thinking today—and your figure is not the same as in the middle forties, why do we have that figure in there?

Mr. HAMILTON. Perhaps as an engineer I am inclined to be a little too cautious because we realize the earliest we can start construction on this dam will be 4 years from now. Within the Santa Maria Valley there is a large military reservation which is currently deactivated. If that were to be reactivated the housing would completely disappear from sight in that area. We want to make this estimate conservative enough so we won't be painting an unfair picture to you gentlemen.

Mr. PILLION. Thank you.

Mr. D'EWART. There are two points you have not covered yet. Perhaps you plan to do it. One of them is the water rights. Have you a permit from the State Governor for the use of these waters?

Second, repayment: When there is no distribution, how do you expect to get your repayment?

Mr. HAMILTON. Shall I answer those in order, sir? The first question on water rights first?

Mr. D'EWART. Yes, the two points that occur to me you have not covered.

Mr. HAMILTON. We have made application for a permit to construct the reservoir to the State division of water resources. The period of protest to that application has expired. There is only one protest and a rather mild one from the Fish and Game Commission. They merely asked that a thousand acre-feet of space be reserved in the reservoir for recreation purposes. That is a matter of negotiation.

However, 1,000 acre-feet of storage will not substantially hurt the project. There is a reason for that: There are no other works on the river. There are no surface diversions at all. The only chance of utilizing these flows, which we have asked permission to store, is through this sort of project.

Mr. D'EWART. You haven't run into competition with the Army engineers we have had in other projects?

Mr. HAMILTON. No. We worked together in this one. In answer to your second question in regard to repayment, the repayment would be accomplished by means of an ad valorem tax and a benefit tax. I think that the witnesses who will follow after me from the local people can answer the question much better. I might say, though that in this connection we are not contemplating the start of any construction until we have a repayment contract. We want that repayment contract in hand before we start construction. The local people feel the same way about it.

Mr. ENGLE. It is significant, too, isn't it, Mr. Hamilton, that this is a 9 (d) contract, which means an absolute pay out at the end of 40 years and not the 9 (e) or public-service-type contract? You expect to make it a 40-year contract for repayment and that is it?

Mr. HAMILTON. That is right. Furthermore, the operation and maintenance under that contract will be turned over immediately to the local people and financed from their own funds, not from the repayment funds.

Mr. PILLION. Mr. Hamilton, how large is this dam and what type of construction is it?

Mr. HAMILTON. It would be an earth-filled dam, 184 feet high, clay and gravel with rock riprap on the upstream face. It would have a concrete open-type spillway with radial gates to control it.

Mr. PILLION. Where is the nearest type of dam of that type in construction that you know of?

Mr. HAMILTON. The nearest one is just in process of completion by the Bureau of Reclamation, the Cachuma Dam on the Santa Ynez River. That river is approximately 50 miles to the south in Santa Barbara County. Mr. Dixon, when he testifies, will touch on that briefly.

Mr. PILLION. Is that larger or smaller than this proposal?

Mr. HAMILTON. It is slightly larger. The height is 210 feet. I think final cost on that dam and reservoir will run about $14 million, very close to the estimates originally prepared in the budget report.

Mr. PILLION. Are your estimates based upon present costs, today's costs?

Mr. HAMILTON. Yes, very definitely. In the preparation of our cost estimates we have not used unit prices for Cachuma blindly. We have increased those prices to reflect the price increases of the last few years.

Mr. PILLION. It is your opinion that they are realistic estimates of cost?

Mr. HAMILTON. I think they are very realistic.

Mr. DAWSON. October 1952, I think you said your costs?

Mr. HAMILTON. October 1952. I would like to reemphasize that we have reviewed that cost, unit price by unit price, and feel in effect it is a February 1953 price. The trend for certain earth dams is just slightly down at the present time.

Mr. REGAN. I would like to ask Mr. Hamilton one more question about the cost. What part of this $16 or $14 million is allocated to the Washington bureau in figuring cost? How much of the total charge is allocated to your overhead here in Washington?

Mr. HAMILTON. I don't believe there is any of it allocated to that. However, there is a question which also I think Mr. Dixon would be better able to answer than myself.

Mr. REGAN. Thank you.

Mr. D'EWART. Does that complete your statement?

Mr. HAMILTON. Yes.

Mr. D'EWART. Are there any other questions? Mr. Yorty?

Mr. YORTY. No questions.

Mr. D'EWART. We thank you very much for a very able presentation to this committee. It has been a splendid one and most helpful.

Mr. ENGLE. May I add to that to say, to join my colleague from Pennsylvania, Mr. Saylor, and say it has been a pleasure to have you here. Your statement has been very clear and forthright, and we welcome a witness who comes and testifies from notes rather than reading us a long-winded statement. It is much easier to follow and much more informative to the committee, especially when the witness is willing to yield at any point for a clarifying question as you have in this instance.

Mr. D'EWART. Thank you very much, Mr. Hamilton.

Mr. HAMILTON. Thank you.

Mr. D'EWART. The next witness is Mr. William N. Hollister, chairman of the Santa Barbara County Water Agency.

Will you give your name and occupation and address?

STATEMENT OF WILLIAM N. HOLLISTER, CHAIRMAN OF SANTA BARBARA COUNTY WATER AGENCY

Mr. HOLLISTER. I am William N. Hollister. I am chairman of the Santa Barbara County Water Agency. I am a farmer by occupation.

The Santa Barbara County has an area of some 1,600,000 acres on the coastal section of California. It is a highly developed agricultural county, presently producing over $66 million annually of livestock and farm products. Due to desirable climatic conditions and scenic beauty, it has become a widely known tourist attraction.

Mr. D'EWART. Mr. Bramblett, would you like to sit with the committee? We would like to have you enter into this discussion any way that you can.

Mr. BRAMBLETT. Thank you, Mr. Chairman.

Mr. HOLLISTER. Prior to World War I, there was very little attempt to carry on other than livestock and dry-farming operations, as lack of sufficient water has always been a problem to the county. However, due to fertile soil and equitable climate, citrus and vegetable crops thrive and make for profitable farm operations wherever irrigation water can be obtained. Many hundreds of wells have been drilled in the 900,000 acres of range and farmlands of the county for domestic and irrigation use with the result that by 1940 the underground reservoirs were being rapidly depleted. There was clear evidence that supplemental sources of water must be developed for this or the growth of the county must stop.

In 1940, the county of Santa Barbara entered into a contract with the Bureau of Reclamation to survey the water needs of the county and determine on a feasible plan for development of a stable and permanent supply.

Mr. ASPINALL. Mr. Hollister, as I understand this last statement, the county asked the Bureau of Reclamation to come into the picture; is that correct?

Mr. HOLLISTER. That is correct.

Mr. ASPINALL. Did the county agree to pay any money for the survey that was to be made by the Bureau of Reclamation?

Mr. HOLLISTER. Yes, sir. It was carried on over a period of years, and the county paid a portion of the cost. I think all told it is about 50 percent of the cost of the survey was paid by local county government.

Mr. ASPINALL. Thank you.

Mr. HOLLISTER. After a complete countywide study of present and future needs, the Bureau reported that the most vital need was for 2 dams to be constructed, 1 in each of the 2 principal streams flowing into the ocean in our county originating in the mountainous drainage areas almost entirely within the boundaries of the county. Also because of the general topography of the county, the only possible use of water from these mountainous drainage areas is within the boundaries of Santa Barbara County.

If I might, Mr. Chairman, right there it might be of interest to state that in this very rough mountainous area in which the Sisquoc River originates is the area known as the Hurricane Deck, and that is the only place in North America that the North American condors still live. There are about 50 of these big birds living, and that has been created as a sancutary for condors.

One of the dams recommended by the Bureau of Reclamation was to be on the Cuyama River at the Vaquero site and designed to prevent flood damage and conserve water to recharge the underground basin of the Santa Maria Valley. The other recommendation was the Cachuma project on the Santa Ynez River to impound some 210,000 acre-feet of floodwater. This project to include a 6-mile tunnel through the coastal mountain range to carry the impounded water to the city of Santa Barbara, and the several agricultural areas along the coast.

In 1945, the California State Legislature passed an act to create a district to be called the Santa Barbara County Water Agency. The boundaries as of the district so formed are the same as the boundaries of the County of Santa Barbara, and the directors of the

district are the five members of the board of supervisors of the county.

The agency has limited authority to levy taxes. It has also full authority to enter into contracts with the United States, and generally to carry on such activities as deemed necessary to develop the water resources of our county. The directors of the agency have authority by a four-fifths vote to levy a countywide tax of not to exceed 15 cents on $100 of assessed value to be used toward the costs of water development projects. The reason for such authority is that the county as a whole would benefit as the areas in which supplemental water is developed would not deteriorate in assessed value.

In 1945, the directors of the agency stated that by such a tax levy $100,000 annually would be made available for repayment of the Cachuma project and $50,000 annually for the Vaquero project. This statement has been reiterated from time to time as changes occurred in the personnel of the board of directors.

Inasmuch as it did not appear feasible that the project in the Santa Maria area, to develop water for the northern section of the county, and the Cachuma project, to impound waters of the Santa Ynez River to supplement the dwindling supplies of the south coast section could be carried on simultaneously, it became necessary for the directors of the agency to determine which of the two should be given priority.

Because of the large investments in citrus, avocados, and other orchard plantings, the desperate water needs of the city of Santa Barbara, and the fact that a great many of the wells were being pumped from 100 to 200 feet below sea level, it was determined that first consideration should be given to the Cachuma project. The project was approved in 1948, is being constructed by the Bureau of Reclamation, and scheduled to be in full operation by the summer of 1954.

The northern portion of the county, knowing that they would receive no direct benefit from the Cachuma project, have cooperated wholeheartedly, and we in the southerly section are now prepared and anxious to give our full support to the Vaquero project. We fully realize how close we came to losing our valuable orchard crops by the rapid depletion of our water basin, and are fully aware of the fact that if the large vegetable industry in the northern section should be forced to dry farming and assessed valuations reduced accordingly, the county as a whole would suffer a tremendous loss.

It is with the spirit of unity and cooperation among the different areas of our county that we are asking approval by the Congress of our Vaquero project in order that the Santa Barbara County may prosper and become a greater asset to the State of California and the Nation.

Mr. D'EWART. Thank you very much, Mr. Hollister.

I might say we don't always find this agreement among California people.

Mr. HOLLISTER. The Santa Barbara County has cooperated wholeheartedly in the Cachuma project and want to carry on for the Vaquero.

Mr. D'EWART. Are there any questions?

Mr. ENGLE. Mr. Hollister, as I understand what your county has done, is set up a district capable of levying taxes and that district is

prepared to enter into a contract to repay to the Federal Government something approximating $14 million out of approximtely $17 million of this project; is that right?

Mr. HOLLISTER. The County Water Agency has the authority to levy taxes for water development, and is willing to contribute from a general countywide tax levy the sum of $50,000 a year toward the repayment of the Santa Maria project.

Mr. ENGLE. The balance is paid on the water-benefit charge of some sort?

Mr. HOLLISTER. Yes. The balance would be by partly an ad valorem tax in the district itself and partly by a benefit tax that would be established according to the areas within the district to be benefited.

Mr. ENGLE. Do you know of any other area in our State where that sort of an arrangement has been made? I noticed the State legislature passed a special act authorizing your county to do this.

Mr. HOLLISTER. That is right.

Mr. ENGLE. It seems to me a very fine procedure. It simplifies a great deal the matter of contractual relations with the Federal Government; it simplifies the problem of the administration of a project when built because it can be turned over for operation to a local organization, which immediately assumes the maintenance and operation, and in addition to that, it has the additional advantage of requiring, if I may use that word, areas where there isn't a direct benefit from a water project to pay some of the indirect benefits. We all know that that happens. How many people are there in the community of Santa Maria?

Mr. HOLLISTER. We have people from that area present who will appear later. I think it is around 12,000 to 14,000 in the city.

Mr. ENGLE. I didn't know it was that large. The merchants of that area get a vast benefit, do they not, from the continued agricultural production from the outlying areas and this water district you set up puts a little of the charge on those people for the indirect benefits received?

Mr. HOLLISTER. That is correct.

Mr. ENGLE. I think it is one of the most forward looking arrangements that I have run across anywhere and I am just in hopes that there are other areas in California where a similar procedure will be adopted. It will do a lot, it seems to me, to get financing of these projects and to get the management of them at the local level where they belong.

Mr. HOLLISTER. That is where we hope.

Mr. D'EWART. Mr. Donovan.

Mr. DONOVAN. What is the total population of the county?

Mr. HOLLISTER. About 108,000, the last census, 1950, gave us 98,000, but a recent survey stands about 108,000.

Mr. DONOVAN. How many big cities and towns are there?

Mr. HOLLISTER. There are 4 incorporated cities in the county, and about 6 or 8 unincorporated communities of 1,500 or 2,000 population each.

Mr. DONOVAN. Broadly speaking, what is the assessed valuation of all the land in the county for county-tax purposes?

Mr. HOLLISTER. The total assessed value of the county last year was $243 million. However, that was land and improvements. Off-

hand, I couldn't state what the assessed value of the land alone would be.

Mr. DONOVAN. Thank you.

Mr. DAWSON. Where is the Cachuma project located?

Mr. HOLLISTER. That is on the Santa Ynez River, which roughly follows the same course from east to west that the Sisquoc River does, but it has a mountain range between the Sisquoc River and the Santa Ynez River.

Mr. DAWSON. What was the total cost of that project?

Mr. HOLLISTER. The dam itself is about $14 million, and then we have a 6-mile tunnel, the Tecolote Tunnel through the coastal mountain range, to get to the Coastal Plains, and then a 24-mile conduit to carry water from the outlet of the tunnel to the various areas of the south coast and the total complete cost of all of the projects, including a distribution system to supply water on the farming areas in the district on the south coast, is estimated to be—it isn't quite complete—but it is estimated to be $38 million.

Mr. DAWSON. Is that all reimbursable?

Mr. HOLLISTER. All entirely reimbursable.

Mr. DAWSON. I understand that project is for the purpose of furnishing culinary water supply?

Mr. HOLLISTER. Supplemental waters to the areas and to the city of Santa Barbara.

Mr. DAWSON. Was that project approved by this committee or authorized by the Secretary without congressional approval? Was it authorized in 1948, do you know?

Mr. ENGLE. Th(Santa Barbara?

Mr. DAWSON. Cachuma.

Mr. ENGLE. I think Cachuma was under secretarial authorization.

Mr. HOLLISTER. I wasn't on the board at that time. One of our later witnesses will be able to answer that.

Mr. DAWSON. I was here in 1948. I don't recall that project being approved by our committee at that time. You are considering these two projects together, as I take it from your statement. In other words, your organization, as I see, approved a tax levy of $100,000 for repayment on the Cachuma project, and $50,000 for repayment on this project.

Mr. HOLLISTER. That is right.

Mr. DAWSON. In the event it goes through?

Mr. HOLLISTER. Yes, sir.

Mr. DAWSON. I take it that the Cachuma project benefited the people in the south end of the county and this one is one you reserve to benefit your neighbors in the north end?

Mr. HOLLISTER. That is correct.

Mr. DAWSON. You feel the two are more or less tied together?

Mr. HOLLISTER. They both benefit the county as a whole, inasmuch as if we do not have the supplemental sources of water, the assessed value and capability of repayment of the total cost would be lessened, and so it is of a direct benefit to all of the county that these projects be carried through to completion.

Mr. DAWSON. Will both projects be repaid through the same taxing unit?

Mr. HOLLISTER. Not entirely. The south coast area will be repaid by sales of water to the city of Santa Barbara and to the agricultural

district, except for a hundred thousand dollars as contributed by a countywide tax, annually.

Mr. DAWSON. In other words, the people in the north end of the county, if they get this flood-control money, $11,300,000, free money, will be getting that much free money which the southern end of the county wouldn't be getting?

Mr. HOLLISTER. That is right, the reason being 100,000 for Cachuma and 400,000 for Vaquero. The cost of Cachuma is about $38 million, whereas Vaquero will be about $16 million for the Bureau portion, plus whatever the Corps of Engineers spend on flood control.

Mr. D'EWART. Mr. Regan?

Mr. REGAN. In your opening statement, you say there is 1,600,000 acres of usable land in the county.

Mr. HOLLISTER. 1,600,000 acres of land in the county; 800,000 acres of agricultural land, rangeland.

Mr. REGAN. There is 700,000 acres of mountains?

Mr. HOLLISTER. In mountainous areas.

Mr. REGAN. Of the 900,000 acres you grow crops equal to $66 million a year or an average of about $60 an acre?

Mr. HOLLISTER. That is right.

Mr. REGAN. What is the average crop in this Santa Maria Valley? What is your yield there?

Mr. HOLLISTER. I don't live in the Santa Maria Valley. One of the later witnesses is prepared to answer that. I live in the south coastal area, and have benefited by the Cachuma project.

Mr. REGAN. I notice your tax arrangement would sound very reasonable to me. All people in the county would benefit from any improvements in the county. I think that is a very wholesome thing, that they pay part of the cost. You apparently regard the southern project as being twice the value to the taxpayers of the county that you would this Vaquero Dam?

Mr. HOLLISTER. Yes.

Mr. REGAN. Yes. Is that about the basis of it, that this would be about 50 percent as valuable to the county as the other project, that is being completed in 1954?

Mr. HOLLISTER. It isn't as complete a project as the south coast because of the tunnel through the mountains and the distribution system and also the fact that the southern area of the coastal area of the county is the extremely valuable citrus and avocado acreages that are extremely valuable crops.

Mr. REGAN. Citrus and avocado are very valuable crops, but I understand you grow vegetable crops in Santa Maria Valley?

Mr. HOLLISTER. That is correct.

Mr. REGAN. You don't have any idea what the annual acreage yield on those crops amounts to?

Mr. HOLLISTER. One of our later witnesses who lives there will have that figure.

Mr. ASPINALL. Mr. Chairman, just one question.

Do you know whether or not that part of the cost of construction of the Cachuma project which furnishes water to the city of Santa Barbara bears interest?

Mr. HOLLISTER. It does, the portion that is used for municipal water does have an interest-bearing factor, and, however, that is under

Bureau of Reclamation 9 (e) contract or water repayment form of contract.

Mr. D'EWART. Are there any other questions?

Mr. DAWSON. Mr. Chairman, if there are no other questions, I would like to make a comment and if the witness cares to comment on it, he may, but it isn't in the form of a question.

I think this project emphasizes something that has been debated here in Congress a long time and that is this matter of free money for flood control, and reimbursible money for reclamation projects. Here you have got a project that involves both of them, and it seems to me that the people are getting the benefit on flood control just as much as they get benefit on reclamation.

Mr. ASPINALL. If my colleague will yield for an observation: By flood control you mean river and harbor development?

Mr. DAWSON. I am talking about all developments which involves free gift money, which isn't reimbursible.

Mr. ASPINALL. There are certain developments in ports along the coastline that get interest-free money just the same as we do in flood control up the river. That is the reason I suggest that.

Mr. ENGLE. I concur in what the gentleman says. We are very loudly criticized throughout the West for these reclamation projects in which we repay capitalization to the United States Government, in addition to which the Federal Treasury benefits from the collection of taxes, due to the enhanced value and the increased production of those areas, whereas the vast areas here in the East and along the Mississippi River, where they have had their hands in the Public Treasury for years, on absolutely nonreimbursible public funds, and the water resource of the President's Water Policy Resource Commission came along last year in a five-volume report, and suggested that these areas which get the benefit of these flood-control projects ought to reach into their pockets on some sort of the same kind of an idea we have here, and put up some money to reimburse the Treasury for the benefits. When you get right down to it there isn't much difference between protecting land from too much water, and protecting land from too little water. They are both conditions of the weather, but our eastern friends would like to bellyache about all the gouging the westerns are doing, have not put up a plugged nickel for any part of the gratuities received from the Federal Treasury and the Federal taxpayer since the beginning of this Nation.

Mr. DONOVAN. Except pay all the taxes.

Mr. DAWSON. I would say the gentleman took the words right out of my mouth.

Mr. D'EWART. The chairman suggests we get back to the Santa Maria project.

Thank you very much, Mr. Hollister, for your being here and giving us the benefit of your testimony.

The next witness is Mr. L. H. Adam, president, Santa Maria Valley Water Conservation District.

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STATEMENT OF LEONALD H. ADAM, PRESIDENT, SANTA MARIA VALLEY WATER CONSERVATION DISTRICT

Mr. D'EWART. Mr. Adam, will you give your name to the committee and your connection with the project?

Mr. ADAM. My name is Leonald H. Adam. I have been the president of the Santa Maria Valley Water Conservation District since 1941.

I have been farming in the Santa Maria Valley all of my life. At the present time my partner and I are farming about 700 acres of land, of which my wife and I personally own 294 acres. An additional 250 acres is owned by my two sisters and myself, and the remaining 156 acres is rented.

The principal crops we grow are chili peppers, lima beans, sugar beets and potatoes, and in order to achieve proper rotation usually about one-third of the land is planted to alfalfa.

Our normal annual water use in this area of the Santa Maria Valley is about 2.5 feet of water per year. This water supply is largely furnished by pumping from water wells located on the ranches.

Prior to the last period of drought commencing in 1946, the water supply was furnished by 4 water wells which would furnish approximately 5,000 gallons of water per minute. Between 1948 and 1950 I drilled 2 additional wells on my own ranch and drilled 2 additional wells on the property owned by my sisters and I, in order to maintain a water supply for the irrigation of the property.

On my own ranch these wells cost $12,000, amounting to about $62 per acre of irrigable land. In addition to this expense I had to lower the pumps in my two older wells at a cost of approximately $2,000, or an additional $10 per acre. Therefore, during these 2 years I had to spend approximately $70 per acre to maintain a water supply for the ranch.

As stated, I formerly had a water supply of approximately 5,000 gallons per minute from 4 wells. In 1951 I had a water supply of 3,750 gallons per minute from 7 wells. At the present time, due to the heavy runoff in the river in 1951–52, I have a water supply of approximately 4,500 gallons per minute.

I built a reservoir to store water for the irrigation of the ranch in 1934. Since 1949 I have had to construct three additional reservoirs at a cost of about $800 each.

The properties I farm are located in the eastern end of the Santa Maria Valley in close proximity to the point where the Cuyama and Sisquoc Rivers join to form the Santa Maria River. As a consequence, the water tables in my wells fluctuate rapidly depending upon the flow in these rivers.

For example, when I first started irrigating in 1929, the water level in the first well I drilled was between 55 and 60 feet. In 1950 the water level in this well had dropped to 90 feet, and in 1951 had dropped to 120 feet. Since the heavy flow in the river in 1952 the water level has risen to 47 feet and has remained at about this level since that time. However, the next period of drought there is no doubt that the water level in this well will go considerably below the 120-foot water level which existed in 1951.

This well originally produced approximately 1,500 gallons per minute. By July 1950 the capacity of the well had been reduced to

850 gallons per minute and by July 1951 the capacity had reduced to 600 gallons per minute. This capacity is now back to about its original capacity but, of course, will go down rapidly when we have further droughty years.

Another well on the property which was drilled in 1934 had a water level of 65 feet. By 1950 this level had dropped to 100 feet and by 1951 the level had dropped to 130 feet. In 1952 the level had risen to 85 feet and has remained about the same since that time.

The original capacity of this well was approximately 875 gallons per minute. In 1951 the capacity had been reduced to 200 gallons per minute and the present capacity is between 500 and 600 gallons per minute.

Most of the ranchers in the east end of the valley had had to construct reservoirs in order to keep the maximum amount of land under irrigation. Many of these wells had an original capacity of 800 gallons per minute, sufficient to normally irrigate 80 acres. During 1948, 1949, 1950, and 1951 the capacity of these wells went down to approximately an average of 200 gallons per minute.

Therefore, in order to irrigate the land it was necessary to construct large reservoirs to store the water during the time that the land was not being irrigated and during the night flow in order to have a sufficient head of water to irrigate the land.

During this period I estimate that I was unable to irrigate 35 percent of the land which I farm. Some of the farmers lost the ability to irrigate as much as 50 percent of their land in 1950–51.

My observations over the years indicate to me that we have a continuously diminishing water supply. Each period of years where we have plentiful rainfall the average water level rises considerably but not to the high point of previous years.

During each period of years where we have droughty conditions, the water level continuously recedes to lower and lower levels. There is only one answer to this situation, and that is that eventually the area east of Santa Maria will be out of water excepting during years following heavy rainfall when perhaps the land can be irrigated for a year or so. Each well in the valley is different, depending upon the sands and gravels penetrated by the wells. The overall picture, however, indicates a continuously diminishing supply and eventual exhaustion of the supply.

This is obvious to those who are farming and irrigating the land and has been verified by every engineer who has studied the problem. The answer, of course, is not additional wells, but provisions for a supplemental water supply.

In addition to our ever-diminishing water supply for the irrigation of the land, a large percentage of the land in the Santa Maria Valley is subject to flood damage.

In both 1937 and 1938 there was a substantial flow in the Santa Maria River. I am advised that the flow in 1937 was approximately 30,000 second-feet, and in 1938 approximately 40,000 second-feet. During those years I lost 25 acres of quite valuable land. If we had had a 100,000 second-foot flow, as has occurred in the past, I probably would have lost half of my land. If we had had a 200,000 second-foot flow, as the Corps of Engineers predict will eventually occur, the entire ranch would have gone into the Pacific Ocean, together with a lot of others.

It is my belief that the situation in the Santa Maria area is critical, both from the standpoint of obtaining a supplemental water supply to keep the land under irrigation and also to protect it from floods.

Speaking for the directors of the Santa Maria Valley Water Conservation District, I hope that this committee will give favorable consideration to authorizing the project to provide additional water for our land and to protect the land against flood damage.

Mr. D'EWART. Mr. Adam, you use electric power for pumping?

Mr. ADAM. Yes; I do.

Mr. D'EWART. What is your cost for electric power per kilowatt hour?

Mr. ADAM. The average will cost you approximately—you mean a kilowatt-hour?

Mr. D'EWART. Yes.

Mr. ADAM. There is a demand charge—including the demand charge, it will cost about a cent and three-quarters. I will tell you, there is a block system. If you have a 50-horsepower motor, the first cost on that will be about—the rates have gone up lately—but it is around 1.75 a kilowatt-hour, and then you get in a cheaper block when you use another 50,000, which drops down to about a cent and twenty one-hundredths, and then eventually it drops down to about between 9 and 10 mills on the next block.

Mr. D'EWART. Have you ever figured that out in cost per acre-foot for water?

Mr. ADAM. That depends on the efficiency of the well, and how deep you are pumping, and it will vary around $3 to $6 or $7 per acre-foot of water.

Mr. D'EWART. This project will result in somewhat lower cost water?

Mr. ADAM. That is correct. It will save expense. When your water goes down in your wells, your efficiency of your bowls are diminished. Bowls are set to a curve, where they do their maximum efficiency at a certain depth, and if they go down 30 or 40 feet below that, your efficiency isn't there, so you have to have your bowls changed on your pump, which nowadays—and also columnaded, which is very expensive these days, and then when the water comes up again you don't get your maximum efficiency unless you change your bowls again.

Mr. D'EWART. If I understand you correctly, then, your cost per acre-foot at the present time roughly averages around $10 an acre-foot?

Mr. ADAM. Well, if you take the cost of the well, and so forth, it would.

Mr. D'EWART. It—I don't know how much you use, but for 3 acre-feet that would make about $30 an acre, and we add 10 more onto that that would make your total cost for this water around $40 per acre.

Mr. ADAM. It isn't costing that much per acre-foot.

Mr. DAWSON. He is talking 3 acre-feet.

Mr. D'EWART. Three acre-feet per annum is what we ordinarily consider needed. You may need more in this hot country. You would have a sandy soil.

Mr. REGAN. The statement said 2.5 acre-feet.

Mr. ADAM. The statement said 2.5. In the valley there is some heavy land and some light land, and different land takes a different amount of water.

But it will cost you on an average between $4.50 or $5 an acre-foot, plus your installation charges for your bowl changing which I haven't figured up, but it will probably go around, any place around $8, I would say.

Mr. D'EWART. With the crops you grow and prices you get you can carry that acre charge per annum you think beyond a doubt?

Mr. ADAM. I think so; yes. We always have been able to do it. I am sure of that.

Mr. DAWSON. What if you had to double it, you had to pay back these flood-control expenses along with the reclamation?

That would be just exactly double. Could you pay it then?

Mr. ADAM. That would put a different picture in the program.

Mr. D'EWART. Mr. Regan, you had some questions?

Mr. REGAN. Yes.

Mr. Adams, I notice you rent 156 acres of land which you and your partner cultivate?

Mr. ADAM. Yes.

Mr. REGAN. Are there wells on the 156 acres?

Mr. ADAM. There is one well.

Mr. REGAN. Could that land be purchased?

Mr. ADAM. The owner of that land, I was talking to him 2 weeks ago, and I don't think it could be purchased.

Mr. REGAN. If it could be, what would you be interested probably in paying? What would that land be considered worth at this time?

Mr. ADAM. The way it is, he wouldn't sell it for $1,000 an acre. He told me.

Mr. REGAN. You wouldn't pay $1,000 an acre for it?

Mr. ADAM. Not the way the water condition is right now.

Mr. REGAN. What would be the value of that type of land for a profitable farming operation if you were to buy it?

Mr. ADAM. Let me explain it this way: There is very little land exchanging hands in the Santa Maria Valley. Most of them are holding it for, we will say up to $2,000 an acre, some $2,500 an acre, but those people aren't buying land.

They aren't selling their land.

Mr. REGAN. I know. You say your principal crops are chile peppers, and potatoes, and sugar beets. On $2,000 land it would be profitable to grow sugar beets; wouldn't it?

Mr. ADAM. It will.

Mr. REGAN. I notice that you recite there at some length the cost that you have been put to in putting additional pumps on your land and it finally goes up to about $70 an acre.

Mr. ADAM. That is right.

Mr. REGAN. Do you consider that pretty high cost? I notice you dwelled on it quite a bit as to the cost of drilling these additional wells.

Mr. ADAM. No; I wouldn't consider that too high, but that don't answer the question. We could drill 20 more wells on there and the water supply is gone when it is gone.

Mr. REGAN. If $70 to drill additional wells is high, are you justified in putting a debt of $375 an acre on this land for this possible recharging your underground reservoir?

Mr. ADAM. I would think we would be.

Mr. REGAN. You think, you would be justified?

Mr. ADAM. Yes.

Mr. REGAN. Because without considering the levy that would be nonreimbursable, your reimbursable costs there would be a charge of $375 per acre against your land.

Mr. ADAM. That is right.

Mr. REGAN. I gather from your statement that you consider $70 that you have been obliged to put into your land for additional wells was rather high.

I wondered if your $375 wasn't out of proportion.

Mr. ADAM. It was high, but I made money by doing it because the crops produced the amount.

Otherwise, if I didn't have those wells, I would have lost my crops.

Mr. REGAN. I just wanted to get that information, your view of the mortgage you are putting on your land, if this bill should pass.

It is the equivalent of $375 an acre.

Mr. ADAM. Over a 40-year period, I would say it was.

Mr. REGAN. Forty years or not, you are putting that much of an obligation against your land with interest-free money, which is to be paid back over 40 years, or the Government might foreclose on you and go in the sugar-beet business itself.

Mr. ADAM. It is worth it to me. You know what you can do. You can plan on your crops and have the security of water.

Mr. ENGLE. The difference is this; isn't it?

For the $350 you get some water, but for the 70, you could drill wells from now until doomsday and not get any more water.

Mr. ADAM. The water is exhausted. After you go down so deep it is exhausted. Impervious strata, it doesn't produce the water. There is water there, but it doesn't give it up.

Mr. REGAN. Is it your opinion that this recharging of the reservoir through seepage will lessen your pumping costs or will they remain the same?

Mr. ADAM. It will lessen the pumping cost.

Mr. REGAN. It brings it up higher.

Mr. ADAM. Yes. And your water stays at a more even keel, so you don't have to change your design of your pump for efficiency.

Mr. REGAN. Thank you.

Mr. ASPINALL. Will the gentleman yield?

As I understood your testimony, Mr. Adam, you were considering the $70 expenditure per acre in a 2-year period; is that right?

Mr. ADAM. That is right; that would be $35 an acre a year.

Mr. ASPINALL. As I understood your suggestion at least, you paid that $35 a year during the last 2 years, so—from your operations?

Mr. ADAM. That is correct.

Mr. ASPINALL. You assume it is a current expense?

Mr. ADAM. That is right.

I didn't know the life of the wells was 2 years at a charge of $70.

Mr. ASPINALL. That is what he said.

Mr. D'EWART. Mr. Donovan?

Mr. DONOVAN. I see you standing up, Mr. Adam. I wish you would sit down. I want to ask you a couple of questions before you leave.

Mr. ADAM. All right.

Mr. DONOVAN. These first remarks of mine have nothing to do with the question. I have sat on this committee through two sessions of Congress, and we are well on our way through the third session, and I have never known of one instance where anybody came in from any of these eastern States with any of these reclamation projects.

That doesn't mean that I am narrow-minded or provincial on this subject of reclamation, and I can also understand why everybody all over the country is willing to take the benefit of the flood-control program whenever the need arises, and whenever they can get it.

I am thinking particularly of that $3 million factor in this project.

What I can't get into my head is how a county with an assessed valuation of over $200 million, located in a State that has an annual budget of over a billion dollars, can't go out and finance and complete this little project of $16 million and pay it off itself.

Can you tell me that? Will you tell me why you have to come here to Washington to finance this little $16 million project; why you can't do it yourself, with the cooperation of the State Government?

Mr. ADAM. Well——

Mr. DONOVAN. I see you hesitate. Is it because you don't have all these overhead charges, and you save a lot of interest money and interest charges and administration charges, and you get the taxpayers from the other part of the country to take care of that?

Mr. ADAM. What is that?

Mr. DONOVAN. Is it because, if you get the United States Government to take this over, you avoid paying interest charges, or you get a very low rate of interest, and you don't have to take care of all those administrative charges that you ordinarily would?

Mr. ADAM. I would say the program is set up for the 17 Western States, through your Bureau of Reclamation.

Mr. DONOVAN. Your answer is even though you could do it yourselves and could finance it because it is a feasible and profitable, economic project, you still want to ride on the taxpayers of the whole United States?

Mr. ADAM. No; I wouldn't say that. Your laws are set up that way and I think if you didn't have your laws set up that way we wouldn't do it.

Mr. DONOVAN. Assuming the laws are set up that way. Actually you are riding free on the taxpayers of the other States, aren't you?

It is an embarrassing question I know, but that shouldn't keep you from answering yes or no.

I will yield. Go ahead. I am counsel for the defense.

Mr. ENGLE. I think it should be pointed out, Mr. Donovan, that where you get interest-free money, if you put that money at 3 percent you would practically double your costs.

Mr. DONOVAN. That doesn't change the answer.

Mr. ENGLE. It changes the answer on the basis of economic feasibility. It depends on how far you will go in financing these projects without interest-free money. You might ask some of these eastern boys why they didn't build their own flood-control project, because it saved their property.

Mr. DONOVAN. I wish before you would go any further, I wish you would name some of those flood-control projects in the East you are talking about.

Mr. ENGLE. The Mississippi River is littered with them.

Mr. DONOVAN. What is east of the Mississippi River?

Mr. ENGLE. Everything east of the Rockies is east to us.

Mr. DONOVAN. All right.

Mr. ENGLE. I think the point the gentleman has missed is that the proposition that interest on irrigation money over a period of 3 percent on a dollar, for 50 years, is 150 percent. In other words, the dollar turns into two and a half dollars.

This project on which they are repaying $14 million, if put at interest, 3 percent over 40 years would be 120 percent.

In other words they would be paying back something like $30 million instead of $14 million, which gets you into the field of economic feasibility that is pretty hard to handle, and that is why the law is written that way.

Mr. DONOVAN. You see, Mr. Engle, every time I hear about flood control I can't help thinking of the weekly and monthly floods we have in the county of Queens in the city of New York where a million and a half people live in about 10, 12, or 14 square miles. They have more floods in that county in 1 year than you read about in the newspapers in the Missouri Valley in 10 years. Every time it rains the people of that country are out in rowboats or pumping out their cellars but I never see any of them down here in Washington asking for any help on flood control and when you talk about those interest charges, the way they round out, I am also compelled to bring my mind to bear on the fact that the funded indebtedness of the city of New York alone, interest charges for improvements that have been built there in the last hundred years, the budget requirements alone, amount to a quarter of a billion dollars a year. We don't run away from those interest charges in the East.

Mr. ENGLE. I don't have the flood-control figures in front of me but we had them here at one time and they were literally astounding and staggering, the amounts of money that the Federal Government has dished out.

Mr. DONOVAN. Under the Constitution the Federal Government has to take care of rivers and harbors. That is a constitutional charge on the Government of the United States. That applies to everybody.

Mr. YORTY. That doesn't reduce the costs.

Mr. DONOVAN. I know. I still haven't got an answer to my question of why a progressive people in a very prosperous county can't take care of a $16 million item, taking care of irrigation and flood control in their own county without running into Washington; even the expense of coming here as often as they have to come would almost pay it off by the time they get through.

Mr. ADAM. I might state that if you issue bonds and if you would have a couple of bad years you couldn't pay, that you would lose your land then. This way, provision is made with the Bureau of Reclamation where, if you have those slack periods, you wouldn't be so likely to lose your land.

Mr. YORTY. If the gentleman will yield?

The answer is the fact that the Federal Government holds out this program as an offer for us to accept.

Mr. ADAM. That is right.

Mr. YORTY. If the Congress wants to abolish this program the State of California will take care of its own needs and the almost 10 percent of the total Federal taxes that we pay will in the long run give us

more money for these projects than we have now by paying this huge proportion and getting a small proportion back. As long as the program is there and we have to pay for other people whether we get it ourselves or not we just want to get our share of these projects.

Mr. ADAM. That is right.

Mr. DONOVAN. In other words as long as the crib is open you want your share?

Mr. YORTY. That is right. We want our fair share.

Mr. DAWSON. As long as the Federal Government insists on opening us out there and they own 73 percent of my State——

Mr. ENGLE. Forty-six percent of mine——

Mr. DONOVAN. I am for giving it to you tomorrow morning.

Mr. DAWSON. In other words the Indians sold New York——

Mr. DONOVAN. If I thought I could get away with it I would give all of the public lands in the United States right back to the States where they are located.

Mr. ENGLE. They sold Manhattan Island for a hat full of beans to those people there and they have been living on the unearned increment ever since.

Mr. DONOVAN. It is just beginning to dawn on me that some of these projects may have something to do with getting some of our representatives in Congress elected and reelected.

Mr. D'EWART. Thank you very much, Mr. Adam.

Mrs. Pfost?

Mrs. PFOST. Mr. Chairman, may I ask one question? I want to know if you do get this dam, will you still have to continue to pump these wells?

Mr. ADAM. That is correct.

Mrs. PFOST. Are you not going to irrigate from the dam itself?

Mr. ADAM. No.

Mrs. PFOST. You are merely hoping that the dam will provide additional water to raise the water table and that is the only way that you will benefit?

Mr. ADAM. That is right. It will be an underground reservoir that it fills.

Mrs. PFOST. I see. You will have to continue operating these wells?

Mr. ADAM. That is correct.

Mrs. PFOST. I am not quite clear, Mr. Adam, on the costs of these wells. I notice that you say that in drilling these wells, you estimated it would cost you approximately $62 an acre, and later, after you had to lower the 2 wells at an additional cost of a couple of thousand dollars to you, that it increased the cost per acre about $10; in other words you estimated $70.

Mr. ADAM. Approximately.

Mrs. PFOST. You mean that you are charging off the entire cost of these wells over a 2-year period; is that what you mean by this $70 an acre?

Mr. ADAM. Yes. That is what it costs. That is what I spent during those 2 years.

Mrs. PFOST. In other words, if you operate the same wells for 40 years you would take this same figure and breakdown over 40 years and it wouldn't cost so much per acre, is that right?

Mr. ADAM. Well, I had to have the water that year for those crops and I was desperate for it. The only way I could get it was to drill those wells or lose the crops. At that time there was so much money put into the crops, rents paid, and everything, that I had to get the water so I could bring in the crops and take a chance on the prices, to get my money back.

Mrs. PFOST. You just used this figure so it might be a comparison and you have charged the cost of the wells over only the 2-year period?

Mr. ADAM. That is right. That is, I spent those amounts during that 2-year period.

Mr. REGAN. Mr. Chairman, I would like to ask a question.

I would like for you and my friend Mr. Donovan from New York to part on a most friendly basis. I think the question he asked about the interest-free money, you might remind him we are growing these fine strawberries and artichokes for the New York trade so they ought to contribute toward getting those products at a minimum cost.

Mr. DONOVAN. When you see the price we pay in the city of New York for those you will see how much benefit there is.

Mr. D'EWART. Thank you very much, Mr. Adam.

The committee will now stand adjourned until 10, oclock tomorrow morning when we will proceed.

(Whereupon at 12:10 p. m., the committee adjourned until 10 a. m., Thursday, April 30, 1953.)

SANTA MARIA PROJECT, CALIFORNIA

THURSDAY, APRIL 30, 1953

HOUSE OF REPRESENTATIVES,
COMMITTEE ON INTERIOR AND INSULAR AFFAIRS,
SUBCOMMITTEE ON IRRIGATION AND RECLAMATION,
Washington, D. C.

The subcommittee met at 10 a. m., the Honorable Wesley A. D'Ewart, presiding.

Mr. D'EWART. The Subcommittee on Irrigation and Reclamation will please come to order for further consideration of H. R. 2235, by Mr. Bramblett, and H. R. 2259 by our colleague, Mr. Engle.

Mr. ENGLE. Mr. Chairman, prior to calling the next witness, I ask unanimous consent to include in the record the statement of the official position of the State Water Resources Board of California in support of this legislation, a letter under date of April 16, addressed to the chairman of this subcommittee, Congressman Poulson. I ask that that be inserted in the record.

Mr. D'EWART. This letter will be made a part of the record at this point.

(The information is as follows:)

STATE OF CALIFORNIA,
STATE WATER RESOURCES BOARD,
Sacramento 5, Calif., April 16, 1953.

Hon. NORRIS POULSON,
Chairman, Irrigation and Reclamation Subcommittee of the House Committee on Interior and Insular Affairs, House Office Building, Washington, D. C.

DEAR MR. POULSON: Under date of February 4, 1953, the Santa Maria Valley Water Conservation District addressed a letter to the State Water Resources Board, requesting the board to approve the proposed Santa Maria project, Southern Pacific Basin.

Views and recommendations of the State of California on proposed report of the Secretary of Interior on Santa Maria project, Southern Pacific Basin, Calif., were transmitted to Oscar L. Chapman, Secretary of the Interior, by Frank B. Durkee, director of public works of the State of California, under date of December 31, 1952.

At the March 13, 1953, meeting of the State Water Resources Board, the board considered the request of the Santa Maria Valley Water Conservation District and a report by its secretary on the proposed project. As a result of this consideration it was moved by Mr. Swing, seconded by Mr. Meikle, and unanimously carried, "that in view of the fact the State of California has heretofore expressed its views and recommendations in favor of the Santa Maria project, the board recommend and support legislation by the Congress for its authorization."

Very truly yours,

A. D. EDMONSTON, *Secretary,*
By SAM R. LEEDOM,
Administrative Assistant.

Mr. D'EWART. The first witness this morning is Mr. Marion A. Smith, director, Santa Barbara County Water Agency.

Mr. Smith, we are glad to have you here.

STATEMENT OF MARION A. SMITH, DIRECTOR, SANTA BARBARA COUNTY WATER AGENCY

Mr. SMITH. Mr. Chairman and members of the committee, my name is Marion A. Smith, and I reside in Santa Barbara, Calif. I am the county supervisor for the district in which the proposed Vaquero project is situated, and I am also a director of the Santa Barbara County Water Agency.

In my statement, I would like to comment upon the following: (1) The local reaction to the Vaquero project; (2) the urgency of an early completion of the project; (3) the soundness of the project.

1. Local reaction to the project

There is no opposition to the Vaquero project, to my knowledge, either within the area directly affected by the project, or elsewhere in the county. For over 30 years the problems of an adequate water supply and adequate flood control have been of serious concern to the residents in the area.

This is borne out by the fact that early studies of the problem were commenced in 1922, and these studies have continued ever since. Every candidate for public office whether on the National, State or local level, has promised his best efforts to solve the problem.

In recent years, every such political candidate has pointed to the Vaquero project, as now proposed, as the only solution, knowing that this would meet with favor among the local people.

The support by the local people is not limited to the farmers. Those within the cities are equally as interested in the project because they are cognizant of the importance of agriculture to the economy of the area, and because they know of the danger from floods. The people feel, and they are right, in my opinion, that the problem is more acute today than ever before. For that reason, they are pressing for an early completion of the Vaquero project.

2. The urgency of the project

The project is urgently needed because of (1) the serious depletion of the water supply, and (2) because of the serious threat from floods.

(1) As to the depletion of the water supply, it is conservatively estimated that there is an average annual overdraft of 14,000 acre-feet.

This has been brought home by the steady lowering water table, with lower production of wells, higher pumping costs, and the complete abandonment of some wells. It is estimated that approximately 8,000 acres of land will go out of irrigated production by 1960 if this trend continues.

Approximately 3,000 acres were not irrigated in 1951 due to lack of water. In 1952, we had above normal rainfall, resulting in a higher runoff in the Santa Maria River. The water table has raised, but this is only temporary, and we can expect the former trend to continue.

At the same time, the raising of the water table in 1952, following the increased runoff, showed conclusively that the engineering studies were sound in concluding that the impounding of water behind Vaquero Dam, followed by percolation into the underground gravels in the Santa Maria River would recharge the underlying water strata in the area and would sustain the water table.

(2) The threat from floods is more serious today than ever before. This condition is largely brought about by the sedimentation in the Santa Maria River, which continues to raise the level of the riverbed, thus reducing its capacity.

The riverbed itself is higher than the center of the city of Santa Maria, both upstream and to the northeast of the city. Any serious overflow of the river east of Santa Maria would flow through the city as well as over valuable farmlands. During 1952, the river left its banks in the Oso Flaco district, and also northeast of Santa Maria, resulting in substantial damage to valuable farmlands.

Through the efforts of county and city crews, and of the farmers, the revetment works were repaired, thus limiting the damage.

This incident pointed out the potential damage from floods, since the estimated flow at the crest was only 25,000 second-feet. Engineering studies had pointed out that the channel would not pass more than 30,000 second-feet. At the same time, engineering studies have shown that once each 25 years a 100,000-second-foot flow can be expected, and once each 100 years a 200,000-second-foot flow can be expected.

During 1952, when the river left its banks, the Santa Maria River watershed received from 15 to 25 inches of rainfall for the year, whereas less than 25 miles to the south as much as 49 inches were recorded for the year or twice the rainfall. The difference resulted partly from a low latitude storm that skirted the Santa Maria watershed, and had it passed over this watershed it is reliably estimated that the flow in the Santa Maria River would have reached 100,000 second-feet. This would have caused major damage.

For the reasons above stated, until the Vaquero project is completed, Santa Maria Valley will face each year, the possibility of a flood of disastrous proportions.

3. The soundness of the project

The multiple purpose Vaquero Dam and flood-control works as proposed by the Bureau of Reclamation and United States Army Engineers is the only sound solution to the problem. It would assure an adequate water supply and at the same time give maximum protection against floods.

Local efforts to solve the problem must necessarily fall far short of a sound solution. At the present time, farmers are installing pumpback systems to reuse runoff irrigation water. Some are using overhead sprinkling to conserve water, where suitable for the crop grown. Reservoirs are being installed to level out pumping and to provide for better handling of irrigation water. These practices will continue, but they only decrease the overdraft and do not elimnate it.

Local efforts to give flood control protection must also fall far short of adequate protection. The county of Santa Barbara has for over a long period installed revetment works at some of the critical points along the river. The Oso Flaco Reclamation District just this year installed piling and mesh wire revetments at the point where the river left its banks last year at a cost of approximately $50,000. But these steps are inadequate, and even if installed at all critical points, would not give adequate protection. Local government cannot go much beyond these stopgap measures.

SUMMARY

In summary, the local people favor the Santa Maria project as proposed, and see in it the only sound solution to the problem of providing an adequate water supply and the problem of adequate protection from disastrous floods. The completion of the project as soon as possible is urgently needed. Assistance by the Federal Government is justified and it is respectfully requested that Congress authorize the project.

Mr. D'EWART. Thank you, Mr. Smith. Mr. Engle.

Mr. ENGLE. A very good statement.

Mr. D'EWART. Mr. Regan?

Mr. REGAN. No questions.

Mr. D'EWART. Mr. Aspinall.

Mr. ASPINALL. No questions.

Mr. D'EWART. Thank you very much for your statement.

The next witness is Mr. John F. Adam, director, Santa Maria Water Conservation District. Mr. Adam.

STATEMENT OF JOHN F. ADAM, DIRECTOR, SANTA MARIA VALLEY WATER CONSERVATION DISTRICT

Mr. ADAM. Mr. Chairman and members of the committee, my name is John F. Adam. I am a director of the Santa Maria Valley Water Conservation District. I was elected director from the municipal area of the city of Santa Maria. I live within the city, but my brother and I are in partnership farming some 600 acres of land located between Santa Maria and Guadalupe. Of this acreage we own approximately 300 acres and rent the remainder. Two of my brother's sons also participate in the farming of this land.

We grow a great number of varieties of fresh vegetables in addition to staple crops of potatoes and sugar beets.

About 400 acres of the land are planted to these crops, and we raise 2 crops each year. The remaining 200 acres are planted to pasture grass. There are occasions where, for proper crop rotation and fertilization of the soil, we alternate the land planted to pasture grass and to vegetable crops. Where we raise sugar beets we ordinarily plant one crop each year, but after the sugar beets are harvested the land is planted to cover crop which is plowed under for fertilization purposes. This land is irrigated by 5 water wells now furnishing a water supply of some 5,500 gallons per minute.

Most of our crops are marketed through the Bonita Packing Co., which is a cooperative marketing association formed several years ago by a number of farmers in the Santa Maria Valley. Most of the farmers who organized and now operate the Bonita Packing Co., farm land located between Santa Maria and Guadalupe.

The engineers who have studied the problem have advised us that we are not in as serious a condition from the standpoint of an adequate water supply as the owners of land lying east of the city of Santa Maria. However, I am and have for a number of years been a director of the Bonita Packing Co. and have talked over our water problems with other farmers at different times during the course of the years. All of the farmers who own or farm land west of Santa Maria are equally aware of the fact that we do have a water problem.

For example, on the home place owned by my family, we started irrigating in 1914. Our well was one of the first to be drilled in this area for irrigation. The water level at that time stood at 65 feet, with a drawdown of approximately 10 feet, leaving a pumping level of about 75 feet. In 1950, the static water level in this wall stood at 135 feet, with a drawdown of about 10 feet. The level in 1953, at the present time, stands at approximately 138 feet.

Our experience indicates that we have a gradual lowering of the water table and when we do have years of substantial flow in the rivers our water table is not helped materially. We do not have large fluctuations in water tables, but our water table is constantly receding. We do not know how long our water supply will last, but we do know that our water reservoir diminishes more rapidly the deeper it goes.

Therefore, all of the water users that I have talked to are most concerned about their water situation and are quite aware of the fact that unless we recharge our underground reservoirs with additional and supplemental water we are going to reach a point where we cannot irrigate our land. No one knows when this time will come, but the situation appears to be inevitable at some future date unless we obtain an adequate supplemental water supply.

I have been a resident of the valley all my life. Land owned by relatives of mine sustained very serious loss in the flood of 1909. This ranch was owned by my grandfather and upon his death was distributed to various uncles and aunts. The ranch before division consisted of approximately 1,500 acres, of which about 200 acres was in the riverbed. In the flood of 1909, about 380 acres of this land was destroyed by flood.

Some of this land has since been partially reclaimed by planting to pasture grass, although it is not capable of raising vegetables or crops of this type. All of this land is in grave danger of being destroyed if we have a large flood as predicted by the Corps of Engineers.

I recently had a survey made of the value of agricultural products, payroll, and so forth, within the Santa Maria Valley Water Conservation District. The crops of vegetables, including potatoes, grown in 1952 had a total value of $20 million produced from approximately 32,000 acres of land. Additional farm products produced consisting of sugar beets, dairy products, poultry, flower seeds, etc., amounted to some additional $5 million.

The total agricultural payroll was somewhat in excess of $6 million. The payroll per acre for growing vegetables runs into a very substantial amount. For example, the payroll per acre for growing artichokes amounts to $240 per acre. Cauliflower, including quick freezing, amounts to $365 per acre. The labor to grow, harvest and process celery amounts to approximately $300 per acre. These figures, of course, do not include fertilizers or any materials of any kind.

The people who reside in my district, the city of Santa Maria, are quite water conscious. The city councilman are all in favor of the project. Speaking for them and for the water users of Santa Maria Valley, I hope that your committee will favor authorization of the project.

Mr. D'EWART. Thank you, Mr. Adam.

What beet tonnage do you get per acre?

Mr. ADAM. About 25 tons to an acre, on an average.

Mr. D'EWART. That is very, very good. What is the sugar content?

Mr. ADAM. About 18.

Mr. D'EWART. Are there any questions? Mr. Regan?

Mr. REGAN. This water table was raised in 1952. I understood you had considerable rain in the last year and it brought your water table back up again.

Mr. ADAM. They did in the eastern end of the valley; where I farm, the water table has not raised, It has receded.

Mr. REGAN. You had a lot of rain and it didn't benefit the underground reservoir. What reason is there to believe that this dam might do it? You had rain last year and it didn't benefit your underground reservoir in raising the water table up.

Mr. ADAM. It was so depleted from previous drought that there wasn't enough recharge to replace it.

Mr. REGAN. You mean it was taken out before it got to you? You are at the far end of the slope?

Mr. ADAM. That is right.

Mr. REGAN. You are not in with Mr. Adam that has the acreage at the north end?

Mr. ADAM. That is right. We farm in different locations.

Mr. REGAN. You say about a third of your land is in pastureland?

Mr. ADAM. That is right.

Mr. REGAN. Will pastureland stand a debt of $375 an acre, assuming you do get it interest free and the Federal Government pays for the nonreimbursible charges on the levees, and so forth, to protect this land, with only 50 percent of it charged to the land? That still gives you a debt of $375 per acre. That is awfully high for pastureland.

Mr. ADAM. That is right. The pastureland is generally grown as crop rotation and while it is high and nobody wants to increase their taxes any, at the same time, it is far better than not getting any return from your land, which we are faced with if we don't have water.

Mr. REGAN. You spoke of the river beds building up to where the bed was now higher than the town property. Has there ever been any attempt to direct or to dredge the channel?

Mr. ADAM. I don't recall speaking of that, but I don't know of any attempt to dredge the channel.

Mr. REGAN. You have never heard any estimate of what it might cost to dredge the channel and get the silt out of the bed?

Mr. ADAM. No, I haven't heard any estimate of that kind.

Mr. REGAN. That is a pretty expensive proposal you put before the Government here of $38 million, or $28 million to protect some 32 to 40,000 acres of land that is now in profitable cultivation. I just question the advisability of our spending that kind of money.

Mr. ADAM. We consider that as far as the foreseeable tax that we are going to be charged, that we are willing to pay it.

Mr. REGAN. Thank you.

Mr. D'EWART. Mr. Dawson?

Mr. DAWSON. Mr. Adam, you seem to be quite a practical farmer and doing business on a big scale here. Possibly you could answer a couple of questions that have been in my mind on this project. I understand the entire project is within the State of California?

Mr. ADAM. That is right.

Mr. WHARTON. It doesn't overlap any other project or Federal involvement. It is a new setup entirely. About how many counties does it extend into?

Mr. ADAM. There is Santa Barbara County and San Luis Obispo County, very little in the San Luis Obispo County, about 9,000 acres, I believe.

Mr. WHARTON. It is practically in the two counties?

Mr. ADAM. Yes.

Mr. WHARTON. Doing business of around $30 million a year there in that district, will you explain to us fellows from the eastern side of the committee just the logic and how you look at the proposition of this kind as regards the Federal Government? In other words, why shouldn't the State of California, in an area doing that kind of business work out problems of that kind itself? Do you feel financially it is possible from the standpoint of your business?

Mr. ADAM. I think that if we can get interest-free money, it is possible; if we have to pay interest on the money that we use to build the dam and for flood protection, I don't think it is possible.

Mr. WHARTON. Then interest would be the deciding factor?

Mr. ADAM. That is right.

Mr. WHARTON. Of course, it is my reaction that the cost of the dam, or of the project, is a little over 16 million. I think there was some testimony along that line.

Mr. REGAN. If you will yield, the cost of the dam is $16 million, of which $3 million is nonreimbursable funds; then $12 million more for the levees. We are only considering now $16 million.

Mr. WHARTON. Assuming it is the entire project it still would be the value of 1 year's crops from your statement in the area.

Mr. ADAM. That is right.

Mr. WHARTON. You feel that would be impossible, you say, without the interest item?

Mr. ADAM. I think that is right. If prices were as high in the next 40 years as they were for 3 or 4 years, it would probably be possible. We don't know what is going to happen.

Mr. WHARTON. The reason I ask is, the crops in my particular locality in a dairying section are so much more modest as to figures in 1 year that my people just can't understand the setup, why these things wouldn't be a good investment.

Mr. ADAM. The vegetable business is expensive.

Mr. WHARTON. That is all.

Mr. D'EWART. Are there any other questions?

Mr. PILLION. I wonder if you would be good enough to answer one question that has been in my mind. Has there been any experience that you know on the part of engineers to prove that a dam and the engineering features here involved would guarantee the recharging of this land with water and raising the water levels there? In other words, do you know of any project similar to this in which a dam has been built and the water permitted to come through the way as contemplated in this plan that would guarantee the recharging of that land with water?

Mr. ADAM. I know of no such guaranty. I do know that we did a little water spreading that did have an effect.

Mr. PILLION. You have to find an area. I wonder whether we have an absolute guaranty by past experience other than perhaps an engineering prediction that it will do what we think or what you would expect this project will do. I don't know. I am not quite satisfied that we will get the result that we are all envisioning here and hoping for.

Mr. ENGLE. That is a good question, Mr. Pillion, and I wonder if John Hamilton would like to make a comment on that. You heard the question, didn't you? It is really an engineering question and that is why I suggested Mr. Hamilton comment on it. Did you hear Mr. Pillion's question?

Mr. HAMILTON. Yes. This is a rather common practice out in California and it has been a very successful one. In Santa Clara County, 2 or 3 dams have been built and have resulted in a very substantial raise in the water table. Our calculations, of course, are based on actual observed runoffs of the Santa Maria stream system and we have taken no additional credit for possible increase of the percolation by building of spreading beds. In other words, by spreading the flows out, there is no doubt whatever that we can develop the 20,000 acre-feet of estimated annual increase or recharge; to be precise, that should be 18,500. Further than that in Los Angeles County rather extensive works have been put in operation on this same principle of detaining the waters and then percolating them underground. It does not work everywhere; it only works where the ground water basin has the characteristics of this basin and those other basins I referred to.

Mr. PILLION. You are sure of your rock and underneath structure so that you are reasonably certain that this will happen?

Mr. HAMILTON. Yes, sir, the USGS in cooperation with the county of Santa Barbara has made an 8-year study of that area and analayzed the logs of 400 wells. They know the characteristics of the ground water table and the actual characteristics of the materials that make up that ground water basin.

Mr. PILLION. There is some talk about the moisture and rain not raising the level of your water.

Mr. HAMILTON. That is a good point, and as a result of having 1 year of heavy runoff, following 5 of the driest years of history, it left the ground water basin at the upper end completely depleted; that is this portion up in here. (Pointing to area east of Santa Maria.)

As I mentioned yesterday, at the end of 1951, the ground water was down at the bottom of the recent alluvium—down to that tight submaterial, I mean to that volume of lower material where it was difficult to remove water—I will show you this chart, I think we can better illustrate it here.

This was the water table level in 1950, but there was still another dry year following that so that this green line that represents the level 1950, had actually moved right down on top of the relatively tight Paso Robles formation leaving this whole volume open. What happened was when the flood discharges came down they found this dry stream bed and practically dry ground water basin. So the major part of the water percolated right into this level here building the levels up east of Santa Maria to this point. It created a mound there which is slowly dissipating to the west. So in 2 or 3 years, unless we have more unusually wet winters, which we have no reason to anticipate, this will finally level out to the bottom of the alluvium here. This ground water table (pointing west of Santa Maria) might rise 2 or 3 feet, but that would be all. The reason that Mr. Adam here has not felt the effect of this rising level is that it takes several years for the water to move from the east to the west. It doesn't move rapidly underground. It is more of a seep, and so right at the moment, in Mr. L. H. Adams' area to the east, the man who

testified yesterday, we have a high ground water table, but over here we have felt no effect of last year's storms.

Mr. PILLION. Thank you very much.

Mr. ENGLE. While you are here, Mr. Hamilton, may I ask you a further question, because it constantly reoccurs. Isn't it true that this project is a divisible project; that is, a portion of it authorized in this particular legislation is divisible from a portion of it which relates to the building of levees?

Mr. HAMILTON. It is divisible physically and financially, Congressman Engle. We are not recommending that sort of a division, but I would say this: That the Corps of Engineers is on record with our organization that they would go along on the initial construction of the Vaquero Reservoir separate from the levees, but not the other way, too, because the construction of the reservoir is necessary to the protection of that levee system, the reason being as I pointed out yesterday. The capacity of the levee system is to be designed for 150,000 cubic feet, but the standard project foot will be 230,000.

It is necessary to have the reservoir in order to take the peak off of that flood, but from the financial standpoint, we have figures to show that the cost per acre on the 40,000 acres in Santa Maria Valley would amount to $10 a year for the conservation features.

There have been some figures quoted in the hearing here yesterday which would lead one to believe that the cost per acre would be $40. In other words, assuming a duty of 2 acre-feet, a cost per acre-foot for $20 for supplemental water would wind up with a total cost of $40 per acre, but then for a supplemental recharge project such as this one, that is not the usual or proper method of logic because what we are doing is firming up the water supply for all 40,000 acres. Thus, the cost per acre can only be computed across the full 40,000 acres, giving us an estimated cost of $10 per acre.

To that I think we could logically add the cost of pumping. The cost of pumping will probably run on the average in that area about $10 an acre-foot or a total of $20 per acre. Add to that the $10 per acre for the water tax, to pay for the repayment on this project, and you come up with a figure of $30 per acre, $15 per acre-foot. In other words, the benefits of this project must be spread not only to the agricultural land, but to the cities in the area.

Mr. D'EWART. I would like to add right here that the engineer representing the Army engineers was here yesterday and he asked if he could be excused from appearing today and before he left he made a statement that he asked that I put in the record, that there were no conflicts of interest in this project between the Bureau of Reclamation and Army engineers. I make that statement for the record at this time.

Mr. ENGLE. I am glad the chairman mentioned that. What I was trying to do was to clarify the situation before the committee. There has been a tendency to lump the 2 together and as if the integration of the 2 was essential for any part of it, which is not the case as I understand it——

Mr. DAWSON. Will you yield for a question?

Mr. ENGLE. Yes.

Mr. DAWSON. Do I understand, then, you could go ahead with your reclamation project and supply the water to these people and

you feel by controlling the waters in the dam that you wouldn't have any need for the flood control project?

Mr. HAMILTON. I would not make that recommendation because I feel there is a very definite need for flood control in the area. Perhaps we can put it this way: That although the absence of flood control will reduce the repayment capacity in the area because of the threat of floods, there is still sufficiently high repayment capacity to still make the project feasible.

In other words, if we took an educated risk on these $600,000 of annual damages to be expected by floods, as predicted by the Corps of Engineers and deducted them off of the payment capacity for the region, if you will permit me I will try to do a little figuring in my head. It would be $600,000 annual flood damages spread over 40,000 acres,. or about $15 per acre. Carrying that through in rather rough economics, that would mean the repayment capacity in the absence of the levees would be reduced $15 an acre. I don't pretend to understand all of the flood economics, but I will say that I think that there is no doubt but what the project could pay for itself and be a safe investment both locally and federally without the levees.

Mr. DAWSON. Could the project pay for itself if you assessed the costs of the flood-control features of it as well as the reclamation?

Mr. HAMILTON. You mean the nonreimbursable?

Mr. DAWSON. Yes. Assuming that you had to pay for the full $28 million; we will say roughly 14 million for the reclamation and 14 million for the flood control. Could the project then stand that much of a cost if they made it all back?

Mr. HAMILTON. I think we get into a question, then, of market value economics. It just wouldn't be possible to float a bond issue in the area in that amount. They don't have the assessed valuation, they don't have the bonding capacity to stand the bonds for 28 million. Further than that, I think you run into the situation where there are not enough people in any community to see far enough ahead so that they are willing to bond this generation to the hilt in order that 2 or 3 generations from now they can enjoy the benefits of something this generation does. Maybe I am getting into philosophy.

Mr. DAWSON. I understand your philosophy. That is the thing we are contending with back here as to where, or as to whether, we are going to bond the next generation from the Federal viewpoint.

Mr. HAMILTON. I think I should withdraw from this discussion because it is out of my field, sir.

Mr. REGAN. Mr. Chairman, I would like to follow this up a little bit on this restocking the underground area with water. You had a lot of rain last year, in 1952, as you and other witnesses have testified, and it did bring up the water level in the upper Adam farm, but didn't help the lower Adam farm. How far did it go in 1 year? How much of the lower Adam farm area was reached by the water?

Mr. HAMILTON. The effect of this ground-water mound, as we call it, the raising of water rather substantially but temporarily extended about to the eastern limits of the city of Santa Maria.

Mr. REGAN. Would you say one-fourth of the way down the valley?

Mr. HAMILTON. One-fourth of the way down the valley.

Mr. REGAN. So if you had a reservoir, that would reasonably take about 4 years to restock the reservoir with water?

Mr. HAMILTON. That is right. It might take considerable longer than that, depending on when you got runoff.

Mr. REGAN. Are you sure the porosity down on the lower Adam farm is similar to that of the upper Adam farm? It will take the water?

Mr. HAMILTON. Yes. There is a reason for that. We are sure of that. The water level at the lower Adam farm has remained relatively constant over the last few years. As I pointed out yesterday and as both the Adam's have pointed out, there has been a drop in that water table of some 40 feet over a 30-year period but as this table has dropped, it has tended to fall more slowly west of Santa Maria in that area than it has fallen east of Santa Maria, the reason being that more water is coming in from the sides, from that portion of the ground-water basin on the sides which are not overlain by irrigable land, but that water table will continue to slowly drop here. There is the added insurance here; west of Santa Maria, as is shown on this diagram, the ground-water table lies very much higher above this tight Paso Robles formation than it does to the east, so there is more water in storage. This fact gives the western Mr. Adam a better opportunity to iron out the peaks between the wet years and the dry years. Nature has been very considerate in that the area which is hardest hit in the ground-water basin is the area which receives its recharge first.

Mr. REGAN. On your chart you showed yesterday over a 50-year period you had about 4 years in which you had a peak water runoff. One was last year, and most of your years, the water runoff was very low; almost nil for a good many years. Now suppose you complete this project. You would have 4 or 5 years there, but the others are way down; suppose you complete this $16 or $28 million project, and you go along for several years with a dry period and aren't going to be agreeable to restock that underground reservoir if you don't have water.

Mr. HAMILTON. That is a question of averages over a long period of time.

Mr. REGAN. You have an average of 50 years and you have only 3 or 4 high years.

Mr. HAMILTON. I see your point. If, for instance, we were to construct a reservoir at this point, being 1917, the last wet year before the last long dry cycle, then we would have the numoer of years in which we could not recover. I think that is a gamble.

Mr. REGAN. What is going to happen to the landowners who owe the Government money at the rate of $400,000 a year if they don't have money for crops, even though they do get the money interest-free and they get the dam and levees free. If they don't have water, they can't raise crops to pay that $400,000 a year.

Mr. HAMILTON. I think that is a very good point, it would seem to me it should be considered in the background of experience, in the State of California. The farmers out there have learned long ago that they have to gamble on these long cycles between wet and dry. They are fully aware of the fact that they are going to have to take that gamble in this particular instance, because, as you see, they have just gone through an extended dry period. They know that that

period can continue for another 5 years or longer, but what they have said is this: That they are willing to undertake repayment to the United States under 9 (d) repayment contract which will guarantee 40 equal payments. Responsibility for that repayment is not on each individual acre, but it is assessed over the entire area, so unfortunate as it may be for some people in the area, should that combination of unfortunate circumstances occur, the people to the west of Santa Maria will be in a position to firm up the base. I am speaking now from the standpoint of the interest of the United States.

However, it is not our opinion that the risk is too great, because at the moment, we have built up the ground water table in this area east of Santa Maria, the critical area. As a matter of fact, the recharge is roughly estimated to have been 150,000 acre-feet in that winter of 1951 and 1952. That much water went back into the basin and is now in storage here. That is to be compared against an average annual overdraft estimated under present-day conditions of 18,500 acre-feet.

Mr. REGAN. You started off a minute ago referring to the statement made yesterday about it costing $40 per acre. I believe you reduced that to $30 per acre. Ten dollars would be for the water itself put in the storage and another $20 to pump that water.

Mr. HAMILTON. Yes, sir.

Mr. REGAN. So we will say $30. Isn't that a pretty high charge for a man to pay for grazing land? Can he afford to put $30 a year for irrigation on grazing land for stock in that country or any other country?

Mr. HAMILTON. Well, of course, that is supplemental feed. I am sorry. I am not a farmer and I am not hitting the right word. It is only part-time feed. Most of the feeding is done on the range and they are just fattened up down in this irrigated area. It is a little bit of feed that makes a big difference to the stock grazers.

Mr. REGAN. I am not trying to propound any questions to embarrass you, but I am thinking, they have a scarcity of water. This Federal Government is getting scarcity in dollars and we just can't go along as I see it with all of these things, even though they do visualize it would be a very nice thing to accomplish. We are getting down to the costs here and the cost considering the value seems to be excessive to me.

Mr. D'EWART. If you will yield, the witness before this one gave figures of about a thousand dollars an acre income for the last year from this area; roughly a thousand dollars an acre agricultural income.

Mr. HAMILTON. I would imagine that that was gross income.

Mr. D'EWART. Yes; that is right.

Mr. DAWSON. Mr. Chairman.

Mr. D'EWART. Mr. Rogers.

Mr. HAMILTON. It (the net income) probably averages at the present time, and these are boom times, about $2 to $300 an acre. Our estimate of the long-term average net repayment capacity would run around $105 an acre for the entire area.

Mr. D'EWART. Mr. Rogers.

Mr. ROGERS. Mr. Hamilton, can you tell me why this project was separated between the Reclamation Bureau and the Army engineers? That is, why the whole thing was not taken by the Bureau of Reclamation?

Mr. HAMILTON. Well, first, under reclamation law we are charged with the construction of water conservation works. Now in the process of constructing those works, if it becomes desirable to build in multiple-purpose features, for instance, when flood storage space is needed and the reservoir primarily for conservation it has been the policy of the administration to have us go ahead and do that.

We have not had the policy to the best of my knowledge of constructing single-purpose flood-control works such as levees.

Mr. ROGERS. That is the reason you brought out a moment ago that the dam would be feasible without the levees, and the levees would not be feasible without the dams?

Mr. HAMILTON. My primary purpose for pointing that out was to show the reservoir could be constructed without the levees and still provide adequate benefits to the area and still have adequate repayment capacity but that the levees couldn't be constructed without the reservoir.

Mr. ROGERS. There would be nothing to prevent the Bureau of Reclamation taking on a levee project, too, would there, in connection with the dam?

Mr. HAMILTON. I think now we are getting into a question of policy which I am not qualified to answer.

Mr. ROGERS. Mr. Chairman, I wanted to ask Mr. Adams 1 or 2 questions. Mr. Adams, how much of this land or what percentage of it is devoted to grazing purposes?

Mr. ADAMS. There is very little devoted to grazing purposes, Mr. Rogers. The dairy industry is very prevalent in the valley. The pasture grass is used for pasturing the dairy cows.

Mr. ROGERS. You said something about rotating. What is your ratio of animals to acres or acres to animals as far as grazing is concerned?

Mr. ADAMS. On the dairy that we operate, we have right at present 55 milking cows, and there are about 30 acres in pasture grass on that particular part.

Mr. ROGERS. You don't pasture beef cattle. Most of it is dairy?

Mr. ADAMS. We have some beef cattle.

Mr. ROGERS. Mr. Wharton was asking you a moment ago about this matter insofar as the repayment is concerned. You made the statement, I believe, that if prices of these commodities stayed about where they are now, that you felt that perhaps the repayment would be feasible.

Mr. ADAMS. No. I don't think the people could pay the whole works with interest.

Mr. ROGERS. That is what I am getting at, Mr. Adams. In other words, it is merely an inquiry. I am not trying to cross you up. But if the present prices of the products which you raise on the land stayed at their present levels would it be feasible to construct this entire project on the theory that the entire $28 million would be reimbursable to the Government?

Mr. ADAM. That would be very difficult for me to answer.

Mr. ROGERS. Do you anticipate any falling prices in these products?

Mr. ADAM. Yes. Frankly, I do. I anticipate a fall in prices.

Mr. ROGERS. Thank you, sir.

Mr. D'EWART. I might tell Mr. Rogers that cattle prices are already below what they were a year ago.

Mr. YOUNG. Mr. Adam, does everybody in the Santa Maria Water Conservation District favor this or is there any opposition to it?

Mr. ADAM. There is no opposition that I know of.

Mr. YOUNG. Is there any possibility that the water level might be raised under some of the land and not be raised under other land so that somebody might be paying for a benefit they didn't receive while a neighbor might get additional water?

Mr. ADAM. I don't believe so. I think an engineer can better answer that question.

Mr. DAWSON. If you will yield, have you had your vote yet on the bond issue?

Mr. ADAM. We have not yet had a vote.

Mr. DAWSON. So you cannot say; there may be some people getting these benefits to oppose them.

Mr. ADAM. I don't know.

Mr. YOUNG. We have had projects before where reclamation works have been built. Later it appears that certain people affected by the project didn't want it and they come in seeking relief because they claimed they were not in favor of the project in the first place.

Mr. ADAM. I have heard of no opposition.

Mr. PILLION. May I ask one question of Mr. Hamilton?

Mr. Hamilton, this may be unfair, and if it is, you just tell me. Rather than thinking of it from an engineering standpoint, if you were thinking of it from a bankers standpoint, you have someone's money entrusted to you for the purpose of investment, would you feel that this was a good safe, sound investment on behalf of people to whom, or that is, whose money is entrusted to your care? Thinking of it from a banker's point of view rather than an engineers. Would it be a good, safe, investment as to repayment?

Mr. HAMILTON. Yes. I think there is absolutely no doubt of the safety of the repayment; primarily because the repayment capacity that we estimate is so much lower than the present returns in the area, the area having a good strong base in agricultural economics, we have no doubt whatever but what the United States can recover the full amount of its repayment, even in a slump period. The district should be able to meet its obligations to the United States under the proposed plan.

Mr. YOUNG. Who decides how much of the money expended will be actually allocated to reclamation? Who determines if 3 million or 7 million that should be allocated to flood control and the remainder allocated to reclamation?

Mr. HAMILTON. That was based on an extended series of conferences between the Corps of Engineers and the Bureau of Reclamation. The Corps of Engineers took pretty much the bankers' viewpoint. They wouldn't make any larger flood-control allocation than was actually justified by the facts.

Of course, they were also interested in making sure that there was a good firm base on our conservation, but the final decision was arrived at by just cold economics. We figured out how much it would cost to construct separate features for flood control and then we figured out the proportional benefit which flood control would receive from having space for storage in the reservoir.

Mr. YOUNG. There is no way of determining, is there, how much flood damage will be done once the reservoir is constructed? The

reservoir, I understand, will eliminate some of the flood damage down in the lower portion of the river; is that right, the Santa Maria River?

Mr. HAMILTON. That is right.

Mr. YOUNG. Is it possible to calculate how much flood damage would be done once the reservoir is constructed without the construction of the levees?

Mr. HAMILTON. I think that could be calculated, but in fairness to the situation I should state that the Corps of Engineers has made the positive statement on a number of occasions that they would not entertain a flood-control allocation to the reservoir if it was permanently contemplated that no levees would be built downstream. We had better add $3 million, divide it by 40,000 acres, which would make about $2 an acre more for repayment per year, if the levees were never to be built.

I think I might make this observation: although I seem to have led the thought forward that this project could and might very well be constructed without the levees, this river valley here is not similar to the Mississippi, or these other meandering streams in the East, where you steal land from one farmer but you build up land for another farmer instead, because of the precipitous nature of the stream bed, 17 feet drop per mile, when these floods come down they just take the silt and the clay and the soil like so much sugar right out to the ocean and leave behind sand and cobbles. If you have had the opportunity, which I know many of you have, to visit some of those streams in the Los Angeles area, you have seen the results. You just have the land removed permanently from the area. For that reason flood control is important.

The only thing that I say here is this: that I feel that the probability of having one enormous flood which would wipe that whole valley out to the ocean is just about one in a million. That figure is used figuratively and not actually, but I think that the chances are that the repayment capacity would remain in spite of the fact that we might have rather disastrous floods—disastrous to the farmers immediately concerned.

Mr. D'EWART. Thank you very much, Mr. Hamilton.

Our next witness is Mr. T. A. Twitchell, counsel, Santa Maria Valley Water Conservation District.

STATEMENT OF T. A. TWITCHELL, LEGAL REPRESENTATIVE OF SANTA MARIA VALLEY WATER CONSERVATION DISTRICT

Mr. TWITCHELL. Mr. Chairman, members of the committee, I do not have a sufficient number of these statements to give each member of the committee, and furthermore, some of the data and information in this statement is a recapitulation of what has already been testified to. I will ask leave to file a copy of the statement to be made a part of the record upon conclusion of my statement.

Mr. D'EWART. Without objection, that will become a part of the record at that point.

STATEMENT OF T. A. TWITCHELL, LEGAL REPRESENTATIVE OF SANTA MARIA VALLEY WATER CONSERVATION DISTRICT

The representatives of the Bureau of Reclamation no doubt have presented or will present the technical phases of the Santa Maria project, the cost estimates, the cost-benefit rates and the facts relative to the ability of the local landowners to pay for the project.

As the legal representative of the Santa Maria Valley Water Conservation District, I appreciate this opportunity to present the views of the local interests upon the following subjects:

1. The need for the project.
2. The emergency character of the project.
3. The plans for financing the project.
4. Further data upon the ability of the landowners to pay for the project.
5. The relationship of the land limitation law upon the project.
6. Recommendations of certain State officials regarding the project.

THE NEED FOR THE PROJECT

There are some 37,000 acres of irrigated land in the Santa Maria Valley, all of which lies within the boundaries of the Santa Maria Valley Water Conservation District. The Santa Maria Valley has an all year growing season as a great deal of this land produces 2 crops a year. It is safe to say that on the average all of the land produces 3 crops in 2 years. Therefore, although the actual irrigated acreage is 37,000 acres, if this area is compared to an area producing 1 crop each year, this 37,000 acres is equivalent to 55,500 acres.

A great variety of crops are grown in this area. The principal crops are broccoli, cauliflower, celery, lettuce, tomatoes, sugar beets, potatoes, chili peppers, carrots, flower seeds, and berries. Without enumerating all of these crops, there are about 30 different varieties of crops grown. In 1952 the total f. o. b. value of the fresh vegetable crop including potatoes was about $20 million. The value of sugar beets grown was $770,000. Potatoes amounted to over $3 million. Butterfat produced had a value of some $2 million. Flower seeds and fresh-cut flowers produced had a value of $800,000.

Cattle fattened in and near the Santa Maria Valley sold for over $15 million. Since most of these cattle were feeder stock purchased from other areas and fattened or finished in or near Santa Maria Valley, the total amount cannot be attributed to the Santa Maria area, but a substantial portion thereof can be.

In any event, excluding cattle, the total value of all crops, butterfat and poultry produced and sold from the Santa Maria Valley in 1952 amounted to some $25 million.

This is a tremendous amount of food that was produced in our area and consumed by the people of this country. To indicate this by concrete figures, if the entire area had been planted to fresh vegetables and assuming 1½ crops per year, there would have been produced some 30,000 carloads of fresh vegetables for the tables of the citizens of our country. (In 1947, 24,000 acres produced 21,400 carloads of fresh vegetables actually shipped from the valley.)

I do not know of any way to calculate the income tax paid to the United States Treasury as a result of income created by this production. I am sure if it could be calculated we would all be surprised at the tax loss which would be sustained by the United States Government if the Santa Maria Valley were to be destroyed by flood or if irrigation became impossible due to a lack of water.

All or nearly all of this great productivity is dependent upon irrigation. Without water for irrigation, the crops which could be grown would be limited to hay, grain, and dry beans, with one crop each year. The water to irrigate this land is pumped from about 375 water wells located throughout the valley.

EMERGENCY CHARACTER OF THE PROJECT.

(*a*) *Water conservation.*—The underground water reservoir that furnishes the pumping water to irrigate the land is replenished by the flow of the Sisquoc and Cuyama Rivers, which join at the east end of the valley to form the Santa Maria River. This natural replenishment of underground water is inadequate to keep up with the amount of water pumped each year. It is necessary to save a portion of the flood water to supplement the natural supply by allowing it to penetrate into the underground gravels. As is true in all of southern California, it is either a feast or a famine—floods and wasted water during years of normal or above normal rainfall, and little or no flow in the rivers during dry or near-dry years.

The Bureau of Reclamation and the United States Geological Survey estimate that there is an average annual overdraft of 14,500 acre-feet of water in the Santa Maria Valley. The project will furnish a supplemental supply of 18,500 acre-feet of water, adequate to take care of this overdraft.

The Bureau of Reclamation further estimates that there will be some 8,000 acres of land out of irrigation by 1960. In 1951 there were a number of wells which were dry and the productivity of other wells was greatly reduced. This

resulted in about 3,000 acres of land going out of irrigation. The land which went out of irrigation in 1951 and the land which the Bureau predicts will be out of irrigation by 1960 is all located east of the city of Santa Maria.

If this land is permitted to go out of irrigation, the economic loss to the Santa Maria area would be very great indeed.

Mr. L. H. Adam, president of the local water district, and I calculated the value of crops lost because 3,000 acres of land could not be irrigated in 1951. We took the cheapest crop grown, lima beans, and calculated an average yield of twenty-five 100-pound bags per acre. The loss would be equal to 75,000 bags. The minimum price for lima beans was about $12 per hundredweight, making a total crop loss of at least $900,000. Of course, all of the land would not have been planted to lima beans so the above calculations were used to arrive at a minimum figure. We also calculated the loss of one crop only instead of using an average of 1½ crops per annum.

If 8,000 acres of land go out of irrigation, it is safe to say that there will be annual crops lost having a minimum value of over $3,500,000. I believe that the United States Chamber of Commerce calculates that each dollar of new revenue in a community will generate trade equal to between 6 and 10 times that amount. Certainly the loss of this crop revenue would have a very serious impact upon the economy of the Santa Maria area.

Again using concrete figures for illustration, this would represent an annual loss of over 7,000 carloads of fresh vegetables.

(*b*) *Flood control.*—This project, of course, is a multiple purpose project to furnish conservation water and also to provide flood control for the rich farming land of the valley and for the cities of Santa Maria and Guadalupe.

The Corps of Engineers have completed their flood-control report. This report will be sent to the Rivers and Harbors Board very shortly.

According to the report of the Corps of Engineers, there will be a flood in the Santa Maria River of 100,000 second-feet each 25 years, and once in 100 years there will probably be a flood of some 200,000 second-feet.

Historically, according to the best estimates available, the following major floods have occurred: 1862, 200,000 second-feet; 1884, 160,000 second-feet; 1868, 120,000 second-feet; 1886, 100,000 second-feet; 1909, 100,000 second-feet; 1938, 39,000 second-feet; 1937, 32,000 second-feet.

As a result of the floods which have occurred since the valley became populated, there have been 7,882 acres of land lost permanently. The principal loss occurred in the major flood of 1909. The topsoil in the valley is a sandy loam. When floods occur, the topsoil is completely washed away and is lost forever.

During the last 25 years the bed of the Santa Maria River has filled up by reason of small flows and the consequent deposition of silt in the riverbed. It is estimated by longtime residents of the area that the average height of the riverbed has risen between 8 and 10 feet during this period of time. Consequently a flood now would cause a great deal more damage than would have been caused with a deeper channel.

The Corps of Engineers estimates that the average annual damage from floods over a 100-year period is $630,000. The corps further estimates that the damage from a 100,000-second-foot flood would be $2,430,000 and that over each 100 years a flood would occur causing estimated damage of $10,710,000.

The corps, of course, have had to estimate this loss from a dollars-and-cents standpoint. This does not take into consideration the permanent loss of highly valuable agricultural land which would be lost to the Nation and to the valley forever, nor does it take into consideration the economic loss to the residents of the area over the following years as a result of the loss of the productive capacity of the valley and its ability to support trade and industry in the valley. This loss to the Santa Maria Valley, to the State of California, and to the Nation would be enormous.

No one can predict when a major flood will occur. It has been over 90 years since there was a 200,000-second-foot flood and it is my thought that we are due for such a disastrous flood before too long a time. Unfortunately, unless we prepare ahead of time for such a flood, then when the actual emergency occurs it is too late. Therefore, if our maximum flood would come in 1960, the emergency is now, because with the best of planning and with the most favorable of conditions, we can hardly hope to complete Vaquero Dam and the levee system to protect the Santa Maria Valley before 1960. The emergency is certainly at least 6 years prior to the occurrence of the actual flood, because it will take that long to prepare for it.

This is a multiple-purpose project. No doubt it has been pointed out to you that this project should go forward as a multiple-purpose project. It may be

possible to plan a conservation dam alone and a flood-control plan alone. However, the engineers of the Bureau of Reclamation and of the Corps of Engineers agree that the logical plan is to solve both problems as a multiple-purpose reservoir and a levee system. This has also been the view of the local people for many years—that is that both problems go hand in hand and should be solved by one program.

Since the report of the Corps of Engineers is not ready for transmittal to Congress, it is not practical to tie both the Reclamation project and the project of the Corps of Engineers into one bill. The report of the Corps of Engineers will have to be authorized at a later date either by a separate bill or in the omnibus flood-control bill. Both the Bureau and the corps agree that Vaquero Dam should be built first to be followed by the levee system. Therefore, the later authorization of the flood-control features of the project will not interfere with the orderly completion of the entire project.

PLANS FOR FINANCING THE PROJECT

The board of directors of the Santa Maria Valley Water Conservation District have given a great deal of thought to possible plans for financing the project and repaying to the United States Government the reimbursable costs of the project.

As pointed out in the report of the Bureau of Reclamation, the area has adequate ability to repay to the Government the capital costs of the project and the annual costs of maintenance and operation.

According to the Bureau estimates, the ability of the landowners to pay for the project varies from $42 per acre to $163 per acre.

Class 1 land within the project varies from $51 to $163 per acre, with a weighted average of $115 per acre, and class 2 land varies from $42 per acre to $105 per acre, with a weighted average of $65 per acre.

If the reimbursable costs of the project together with the annual costs of maintenance and operation were apportioned over the land on an acreage basis, the annual cost would approximate $11 per acre. The total capital repayment amounts to $349,200 per year. The cost of the operation and maintenance of the water-conservation features of the project is $41,600 per annum, and the annual operation and maintenance cost of the flood-control project is $46,400.

It would not be equitable, however, to allocate these annual repayment costs on an acreage basis for two reasons. First, the city of Santa Maria and the city of Guadalupe will derive a very considerable benefit from this project because without it the trade which supports these two cities could not be sustained. Furthermore, both the city of Santa Maria and the city of Guadalupe will receive a very substantial flood-control benefit from the project. Secondly, the lands lying easterly of the city of Santa Maria will receive more benefit from the water-conservation aspects of the project than land lying west of the city of Santa Maria.

As predicted by the Bureau of Reclamation, most of the acreage lying east of the city of Santa Maria will be completely out of water by 1960.

The land lying west of the city of Santa Maria will be adversely affected because of an appreciable lowering of the water tables, a reduction of the productivity of the wells, and a very substantial increase in pumping costs, plus additional capital outlay to install deeper pumps and more powerful motors to operate the same.

Some of the land in close proximity to the Pacific Ocean also is subject to the risk of salt-water infiltration. There is no impervious barrier to hold back salt water from the ocean. The only barrier to the infiltration of salt water is the water table in the valley which must be sustained at a higher level than sea level or such infiltration will occur.

The land in the westerly part of the valley and particularly that portion thereof adjacent to the Santa Maria River is also in serious danger from floods.

From an equitable standpoint all of these factors must be taken into consideration to apportion the repayment costs of the project equitably amongst the owners of land lying within the boundaries of the Santa Maria Valley Water Conservation District, including the land situated within the boundaries of the two cities mentioned.

The Santa Maria Valley Water Conservation District was organized in 1936 under an act of the State Legislature of the State of California known as the Water Conservation Act of 1931. This act as originally drafted did not provide authority for the local water-conservation districts to enter into long-term contracts or to levy taxes to make repayments over a long period of time.

Therefore, in 1945 the directors persuaded the State legislature to amend the act to provide authority to levy assessments over a 40-year period to finance repayment contracts. This amendment, however, provided only for the levy of an ad

valorem tax. Seeing that such a tax would not result in an equitable distribution of the cost of the project amongst the landowners, a bill has been introduced in this session of the State legislature further to amend the act by giving the district authority to levy a tax over a 40-year period based upon the benefits to be derived from a project by the land within the district. It is anticipated that this bill will be approved this session of the State legislature.

Both the 1945 amendment and the pending amendment provide that this tax can be levied only after a majority vote of all the people residing within the district. Other safety factors provide assurance that the tax would not be levied unless it was equitable and met with the approval of a majority of residents and also a majority of landowners within the area affected by the tax.

These steps have been taken in order that the local district will have adequate authority to enter into a binding contract to assure the Government of the repayment of its capital expenditure and all annual costs of maintenance and operation.

It is the plan of the directors of the district that as soon as this project has been authorized, to negotiate a tentative contract with the United States Government through the Bureau of Reclamation for the repayment of the costs of the project if construction is authorized through appropriations by Congress. This contract will then be voted upon by the people within the district before we would seek appropriations from Congress. In that way the Congress will be assured that the people are in favor of the project and are willing to pay the bill before Congress will be asked to appropriate money for construction. If the project does meet with the approval of the people, then it would be our position that we would seek appropriations for construction when this could be done without prejudice to a sound national budget.

It is also contemplated that the Santa Barbara County Water Agency will arrange to finance $50,000 per year of the annual repayment costs of the project.

The directors of the Santa Maria Valley Water Conservation District have gone on record favoring the project. The directors will submit the project to a vote of the people and will recommend the project to the people. The directors of the Santa Barbara County Water Agency have also adopted a resolution favoring the project and agreeing to cooperate to make the project possible.

ADDITIONAL DATA RELATIVE TO THE ABILITY OF THE LANDOWNERS TO PAY FOR THE PROJECT

I have pointed out the findings of the Bureau of Reclamation regarding the ability of the water users to pay for the project.

In 1948 the Santa Maria Valley Water Conservation District had prepared an economic survey of the district. This report was prepared by private individuals engaged by the directors of the district. I will place on file with the committee a copy of this report. To summarize some of the principal features of this report, which in turn bears upon the ability of the area to pay for the project, I submit the following figures:

1. Market value of city owned property, city of Santa Maria	$3, 401, 855
2. Market value of schools, city of Santa Maria	3, 489, 659
3. Market value of other property, city of Santa Maria	62, 790, 124
4. Market value of all property, city of Guadalupe	7, 643, 096
5. Market value of all rural property within the Santa Maria Valley Water Conservation District located in Santa Barbara and San Luis Obispo Counties	81, 680, 799
Market value of all property within the district	152, 114, 019

It can readily be seen that it is vitally necessary to protect this area both from floods and also from having its productive capacity materially injured by loss of its supply of irrigation water, and that the United States Government can be sure that the project will be paid for.

RELATIONSHIP OF THE LAND LIMITATION LAW UPON THE PROJECT

This project will furnish a supplemental water supply by permitting the conservation water to percolate into the underground reservoirs by releasing the water from the Vaquero Reservoir into the stream bed of the Cuyama River and Santa Maria River. This water is then pumped from wells located in the irrigated part of the valley.

As pointed out on page 51 of the report of the Regional Director, region 2, approximately 26 percent of the land is owned by 13 ownerships. This would

result in a violation of the land limitation provisions of the Reclamation Act as amended. The bulk of this excess land is owned by the Union Sugar Co. and by one family, the LeRoy family. All of the land owned by the Union Sugar Co. and the LeRoy family is located west of the city of Santa Maria. Neither the Union Sugar Co. nor the LeRoy family farms the land. It is rented out in several farms. This land will be adversely affected if the project is not constructed, but at the same time the land still would have a water supply for the irrigation of the land for a long time to come.

The president of the Union Sugar Co. assured me some time ago that although the project would result in substantial taxes to the company, yet he would favor the project providing an equitable arrangement can be worked out to divide the cost among the landowners. He also advised me that he had consulted representatives of the LeRoy family and that they, too, would favor the project providing the directors worked out an equitable repayment arrangement. The position of these two large excess landowners is that they favor the construction of the project as a matter of community benefit, although possibly they might be better off financially, at least over the next 20 years or so, if the project was not constructed now. Therefore, they are in effect paying a substantial tax in order to help the entire community to obtain a vitally necessary project.

Assuredly these owners would not sell their lands in order to make the project possible, because their lands would have a water supply for the irrigation thereof for a long time to come and therefore there is no economic pressure which would prompt them to sell the lands in order to make the project possible.

At the same time, since the conservation water will percolate into the stream beds it will be available to all owners and there is no mechanical or legal way that they can be prevented from pumping a part of the supplemental water supply furnished by the project from lands owned by them.

Neither the Union Sugar Co. nor the LeRoy family farm the land owned by them. All of this land is leased out to individual farmers. So long as these farmers conduct the farming operations on the land in such a way as not to destroy its fertility and continue to pay the reasonable rental value of the land, they have been permitted to continue in possession and to farm the land over long periods of time. The Santa Maria Valley does not present a situation of corporate farming operations or individual owners farming large acreages. The actual farming operations by the tenant farmers of these two major landowners are well within the acreage limitations of the land limitation law, but at the same time it is a technical violation because they are tenants only and do not own the land.

A situation is thus presented where the excess landowners are willing to further the project and to bear their share of the cost even though the project is not absolutely essential to their welfare. They will derive substantial benefits, but the benefits which they do derive would not be sufficient to persuade them to sell their land in order to make the project possible.

I believe that the situation is one which would certainly justify Congress in making this project an exception to the land limitation law. The excess lands are needed to make the project feasible and to help pay the bill.

Assistant Secretary of the Interior Aandahl has advised me that if the bill is amended to provide appropriate exceptions to the application of the land limitation law in this case, that such an amendment will not be opposed by the Department of the Interior. This is also the view of the regional office of the Bureau of Reclamation as expressed to me personally by Regional Director Richard L. Boke. These men recognize the need for the project and that all provisions of the land limitation law can't be made to apply. These men have not indicated to me just what they would approve but definitely indicated that reasonable exceptions to the land limitation law are appropriate.

RECOMMENDATION OF STATE OFFICIALS AND BOARDS

The Santa Maria project has been considered by the State engineer of the State of California and the Water Resources Board of the State of California. The State engineer in commenting upon the project report had this to say:

"The water supply situation in the Santa Maria River Basin is critical and steps should be taken immediately to relieve the water shortage in that area."

The State engineer further recommended:

"The plan of levee and channel improvements proposed by the Corps of Engineers, Department of the Army, for flood control in the Santa Maria Basin be adopted and approved and an appropriation made for the construction of these works.

"The construction of a 214,000-acre-foot capacity multiple-purpose reservoir at the Vaquero site on the Cuyama River be approved and funds appropriated for such construction."

The Water Resources Board of the State of California has passed a motion reading in part as follows:

"* * * that in view of the fact the State of California has heretofore expressed its views and recommendations in favor of the Santa Maria project, the board recommend and support legislation by the Congress for its authorization."

We have also received newspaper reports that Governor Earl Warren has gone on record as favoring the immediate authorization of the project by telegrams to Senators Knowland and Kuchel, Secretary of the Interior Douglas McKay, and Director of the Budget Joseph Dodge.

The State engineer has made some additional recommendations. Their recommendations apply to all projects and not to this project alone. Their recommendations no doubt will be considered by the Congress at some future time and if adopted will be made applicable to this project.

There was a policy question raised by the Department of Agriculture regarding the correlation of their upstream report prior to authorization of the Bureau report or the report of the Corps of Engineers. I am pleased to report to you that this question has been settled and is out of the way. The Bureau and the Department of Agriculture have agreed to work this problem out at the local level and have agreed that this matter of correlating the reports should not delay authorization.

I am not familiar with all the projects authorized or under investigation. It is my belief that the Santa Maria project will rank as 1 of the 15 most critical projects. It has ample repayment ability and I respectfully urge that you recommend the passage of the bill to authorize the Santa Maria project.

Mr. TWITCHELL. My name is T. A. Twitchell, and I am the legal counsel for the Santa Maria Valley Water Conservation District. I might say that I have been interested in this project really since its very inception and in reply to certain of the questions which have been asked, I will say that in 1937, the district came to Congress and asked for a bill authorizing a flood-control survey of the area. We did that, based upon the flood-control act which had been adopted by Congress, and which, as we understood, complied with national policy to furnish nonreimbursable funds for flood control, if the findings of the Corps of Engineers made it appear to be in the interest of the United States Government to protect an area against floods.

In 1940, we also entered into a contract with the Bureau of Reclamation to have the Bureau make an overall survey of the water resources and needs of the entire county, and in turn we did that, based upon the fact that the national reclamation program was national policy and it was national policy to furnish interest-free money to areas where you had a feasible project, and where they had the ability to repay. We have followed that line of thought ever since 1937 insofar as the flood-control features of our project is concerned, and we have followed that theory insofar as our conservation problem is concerned since 1940.

I was formerly on the board of supervisors and as such I have been in pretty close touch with the reclamation projects and it is certainly my personal opinion that reclamation is one of the soundest investments that this Nation can make. It creates additional areas of productivity and it certainly creates markets for goods which are manufactured in the East. It creates areas where the Federal Treasury collects a very large amount of income tax on account of productive land where if you did not have reclamation it would produce nothing.

I have always been very much impressed by the Salt River Valley project were, as I understand it, the national investment in the recla-

mation project is repaid every year in income tax. There are some 200,000 acres in that project which wouldn't produce 1 blade of grass nor any food or fiber of any kind if it wasn't for reclamation, so I have always been a very firm believer in the reclamation program.

I have also had this view: that I do not believe it would be sound national policy to either withhold interest-free money or grant it, depending upon the wealth or the poverty of the area affected. I certainly think it is better national policy to furnish interest-free money to an area which has the ability to pay than to furnish interest-free money to an area which has doubtful repayment capacity. Those are just my views, and I would like to express them to you in view of some of the questions which have been asked.

This particular area with which we are concerned has around 38,000 acres of irrigated land at the present time. I do not think it has been brought out very clearly that the Santa Maria area has an all-year growing season. Some of this land produces 2 crops a year and it is safe to say that on the average it produces a crop and a half each year or 3 crops in 2 years so although we are talking about 37,000 acres, yet if we compare it to an area which produces only 1 crop a year, we are actually talking about 55,500 productive acres each year.

The agricultural situation in the valley is extremely diversified. There are some 30 different kinds of crops in the area. Mr. John F. Adam indicated to you that the total gross market value of those crops are some 25 to 30 million dollars. In addition to that, there is quite a lot of cattle industry there in this way: we have a sugar beet factory and as a result of that, the byproducts of that manufacturing process are used for feeding cattle, so in addition to those figures there are some $15 million worth of cattle sold from the area every year. We cannot claim credit for all of that because a lot of those cattle are feeder stock which are brought in and fattened and finished in our area.

I thought it might be interesting to indicate by some concrete figures what the productivity of this area is. Of course, we do not plant all that land to vegetables, but if we assume that it was all planted to vegetables, the area would produce some 30,000 carloads of fresh vegetables for the national food supply. The statistics show that in 1947, there were 24,000 acres planted to vegetables, and there were actually 21,400 carloads of fresh vegetables shipped to the national market that year.

I do not know any way to calculate the amount of income tax paid to the United States Treasury as a result of income created by this production. I am sure if it was calculated, it would surprise all of us at the amount of tax, income tax, which is collected by the United States Government and those taxes certainly would be lost if this area was out of water, or if it was destroyed by flood. It has been pointed out that we are in a critical situation, both from the standpoint of water conservation and from the standpoint of flood control.

We started investigating the water situation in the Santa Maria Valley as far back as 1922, a private engineer looked at the situation at that time. It was checked again by J. B. Lipencott & Co., I think around 1932 and has been intensively surveyed by the Bureau of Reclamation and the USGS since 1940, and every engineer who has studied the problem advised us that we have a continuously diminish-

ing water supply over the course of the years, and as far as the eastern end of the valley is concerned, we are very close to the bottom of it at the present time and in the area to the west, the water supply is diminishing, although they will have a supply west of Santa Maria for a great number of years to come.

Owners in the west end of the valley would be adversely affected if this project did not go forward because they would have a lowering of their water tables; they would have increased pumping costs and they would have a considerable expense in lowering their wells, deepening them, lowering pumps, purchasing higher powered motors to operate the pumps, etc.

It is my feeling that insofar as the area is concerned, the water conservation features of it, are of a critical character.

I think that if this project is authorized that then it should be placed upon, or among, all the other projects which have been authorized, its emergency character compared to the emergency character of other projects and when a sound national budget would permit construction, funds should be authorized for construction.

Mr. L. H. Adam and I calculated the gross crop loss which resulted from about 3,000 acres of land going out of irrigation in 1951. We took the cheapest crop that is grown in the area, lima beans, and calculated an average production and there were 75,000 bags of lima beans which were lost that year, having a gross market value of $900,000. If that amount of money had been poured into the community, it in turn generates a lot more trade. It isn't just the $900,000, but after all, the man who raises the crop is paid his wages and he in turn spends it with the butcher and the baker and everybody else and it generates, I think, somewhere between 6 and 10 times as much insofar as trade is concerned.

If 8,000 acres of land would go out of irrigation, and that is the prediction of the Bureau of Reclamation that 8,000 acres will go out of irrigation by 1960, there would be a minimum crop loss, having a gross value of not less than $3,500,000. That would be certainly a very serious impact upon the economy of my area.

Insofar as the flood-control situation is concerned, historically, according to the best estimates, there were no measurements made in those early years but according to the best estimates we have, or the Corps of Engineers have, in 1862, we had a 200,000 second-foot flood; in 1864, 160,000; 1868, 120,000; and 1886 and 1909, we had each a 100,000 second-foot flood. In 1909, and in the other more minor floods since that time the area actually has lost something in excess of 7,800 acres of land and as pointed out to you by Mr. Hamilton the flood situation in our area is different perhaps than in some of the eastern areas. When we have a flood the soil is just completely gone. It goes to the ocean and that is the end of it.

If we had a flood now of 200,000 second-foot I don't know how much acreage would be permanently lost but whatever acreage would be lost would be a loss of a national asset which I think in the future, not only for our generation but generations to come, would be irreparable and would be something of very serious consequence. Therefore, I believe that the flood-control aspects of this project are also very thoroughly justified.

We don't know when we are going to have a major flood. If we have it in 1960, our emergency situation is right today because with

the best of planning and the best of efforts we cannot hope to have this project completed before that time.

I want to clear up somewhat, too, the plans for financing this project.

The board of directors of the Santa Maria Conservation District have given a great deal of thought to possible plans for financing the project and repaying to the United States Government the reimbursable costs of the project.

Mr. Hamilton has pointed out that, according to the Bureau, the ability of the landowners to pay for the project varies from $42 per acre to $163 per acre, with, I believe, a weighted average throughout of about $115 per acre. If the reimbursable cost of the project, together with the annual costs of maintenance and operation were apportioned over the land on an average acreage basis, the annual cost would approximate $11 per acre. That includes flood control, maintenance, and operation.

It wouldn't be equitable in my opinion nor the opinion of the board of directors of the water-conservation district to apportion this cost on an acreage basis. There are two reasons for this: First, the city of Santa Maria and the city of Guadalupe will derive a considerable benefit from this project, because without it the trade which supports these two cities would not be sustained. Furthermore, both of these cities will obtain very substantial flood-control benefits from the project.

Secondly, and I think it has been pointed out, lands lying easterly of the city of Santa Maria will receive more benefit from the water-conservation aspects of project than lands which lie west of the city of Santa Maria.

The land which lies west of the city as I have pointed out would be adversely affected because of lowering water tables, increased pumping costs, reduced productivity of wells, and things of that sort.

Furthermore, some of the land lying close to the Pacific Ocean does have a serious danger of damage by salt-water infiltration. The engineers who have studied this problem cannot tell us and cannot predict when this will occur but when that water table goes low enough we are going to have salt-water infiltration, which destroys the productivity of the land, as I understand, for a long time to come. From an equitable standpoint all of these factors have to be taken into consideration to apportion these repayment costs equitably amongst the owners of land lying within the boundaries of our district, including the land lying within the cities which I have mentioned.

The Santa Maria Valley Water Conservation District was organized in 1936 under an act of the State Legislature of the State of California known as the Water Conservation Act of 1931. This act as originally drafted did not provide authority for water for the local districts to enter into long-term contracts or levy taxes to make repayments over a long period of time. Therefore, in 1945, the directors of our district persuaded the State Legislature to amend the act to provide authority to levy assessments over a 40-year period to finance repayment contracts. This amendment, however, provided only for a direct ad valorem tax based upon assessed valuations. Seeing that such a tax would not result in an equitable distribution of the cost of the project, amongst the landowners, a bill has been introduced in this session of our State Legislature further

to amend this act, to give our district authority to levy taxes over a 40-year period, based upon the benefit to be received from the land. Both the 1945 amendment and the pending amendment provide that this tax can only be levied after a majority vote of all the people residing within the district.

These amendments also provide safety factors to provide assurance that the tax would not be levied unless it is equitable, and meets with the approval of a majority of the residents, and also with a majority of the landowners within the area affected by the tax. Those things were all added to furnish the people within the area adequate protection against having a tax imposed upon them, which they did not desire to have imposed.

The bill which is now before the assembly has beeen recommended by the assembly committee considering it, and I am satisfied that it will be adopted and will be signed by the Governor.

Mr. ENGLE. Mr. Twitchell, dealing with that problem, the area as I understand, is prepared to enter into a contract with the Federal Government, backed by the legislative authority, to levy the assessments across the board and for benefit as indicated in your testimony prior to the time the Federal Government undertakes construction.

Mr. TWITCHELL. That is correct. That is the next point I was going to bring out, and that is that it is the plan of the directors of this district that as soon as this project has been authorized to negotiate a tentative contract with the United States Government through the Bureau of Reclamation for the repayment of the cost of the project, and if construction is authorized through appropriations, this contract would then be voted upon by the people within the district before we would ever come to Congress and ask for appropriations. If that contract is approved by the people and they have indicated their willingness to pay the costs back to the Government, then it is my view that we would come before the Appropriations Committees of Congress and ask for an appropriation, when that appropriation could be made, having in consideration a sound national budget and I think when that time comes, we would be entitled to be considered amongst other reclamation and flood-control projects and that our project should be constructed when it would be in line with national policy, taking into consideration the criticalness of our situation as compared to the criticalness in other areas. That is our theory.

Mr. ENGLE. That is in fact the way the program would work mechanically, isn't it?

Mr. TWITCHELL. That is correct.

Mr. ENGLE. Because the Bureau has here stated that they will have to have the contract in their hand, due to the peculiarities of this repayment situation prior to the time they started construction.

Mr. TWITCHELL. That is correct. That has always been our policy and our thought on the subject.

Mr. D'EWART. Does that complete your statement?

Mr. TWITCHELL. No. I have other matters which I would like to bring up.

This project will also pose another problem for you and that is the problem of the relationship of the land limitation law.

This project will furnish, as has been indicated, a supplemental water supply by permitting conservation water to percolate into the underground reservoir by releasing the water from Vaquero Reservoir

into the stream bed of the Cuyama River and Santa Maria River. This water is then pumped from wells which penetrate the gravels and are located throughout the valley. As pointed out, perhaps you haven't read the report, but the regional director in his report pointed out that approximately 26 percent of the land is owned by 13 ownerships, and this would result in a violation of the land limitation provisions of the Reclamation Act as amended. The bulk of this excess land is owned by two concerns, one is the Union Sugar Co., and by one family, the Le Roy family. All of the land owned by the Union Sugar Co. and Le Roy family is located west of Santa Maria.

Neither the sugar company nor LeRoy family farm this land. It is rented out in smaller acreages perhaps ranging from 80 to 200 acres to each tenant. This land, as I have heretofore pointed out, will be adversely affected if we do not get our project but insofar as the land is concerned, they will have an irrigation supply for a great many years to come, although the water will be deeper the productivity of the wells will be down and it will be more expensive. The president of the Union Sugar Co. assured me sometime ago that although the project would result in substantial taxes to the company, yet he would favor the project, providing an equitable arrangement can be worked out to divide the cost amongst the landowners.

He also advised me that he had consulted representatives of the LeRoy family and they too would favor the project, providing the directors worked out an equitable repayment arrangement. The position of these two large excess landowners is that they favor the construction of the project as a matter of community benefit, although it is conceivable that for a period of 10 or 15 years, they might be better off financially to retain their water supply as is, and not pay the tax, the substantial tax which would result from the project. It is a situation where the large landowner's land is needed in order to make this project feasible and they are willing to go along and help the community out and pay their share of the bill.

Certainly the situation is such that these owners would not sell their land in order to make this project possible, because they have a water supply for some time to come, and there is simply no economic pressure which would prompt them to sell the lands in order to make this project possible.

At the same time, since the conservation water will percolate into the stream beds it will be available to all owners and there is no mechanical nor any legal way they can be prevented from pumping this water out of the underground when the additional supply has been made available.

Neither the Union Sugar Co. nor the LeRoy family farm the land owned by them.

All of this land is leased out to individual farmers. So long as these farmers conduct the farming operations on the land in such a way as not to destroy fertility of the land and pay a reasonable rental they are permitted to continue in possession.

Some of the tenants have been there as long as 15 or 20 years or more.

The Santa Maria Valley does not present a situation of large corporate farming operations, or individual owners farming large acreages in excess of the land limitation law. The actual farming operations by the tenant farmers of these two major landowners are well within the acreage limitation, but at the same time, it is a technical violation

because they are tenants only and do not own the land. A situation is thus presented where the excess landowners are willing to further the project and to bear their share of the cost, even though the project is not absolutely essential to their welfare.

I believe that the situation is one which would certainly justify Congress in making some suitable exceptions to the land-limitation law. The excess lands are needed to make the project feasible and possible and to help pay the bill. Assistant Secretary of the Interior Fred Aandahl, and I believe he was at that time Acting Commissioner of the Bureau of Reclamation, has advised me that if the bill is amended to provide appropriate exceptions to the application of the land-limitation law in this case that such an amendment will not be opposed by the Department of the Interior. This is also the view of the regional office of the Bureau of Reclamation as expressed to me personally by Regional Director Richard L. Boke. These men recognize the need for the project and all provisions of the land-limitation law cannot be made to apply. These men have not indicated to me just what they would approve, but definitely indicated that reasonable exceptions to the land-limitation law are appropriate in our case.

Mr. Engle has heretofore read to you the letter which is addressed to Congressman Poulson, from the State water resources board. The project has been considered by the State engineer, and he has said that the water supply situation, and I quote:

> The water supply situation in the Santa Maria Basin is critical and steps should be taken immediately to relieve the water shortage in that area.

The State engineer has further recommended:

> That the plan of levee and channel improvements proposed by the Corps of Engineers, Department of the Army, for flood control in the Santa Maria Basin be adopted and approved and an appropriation made for the construction of these works. The construction of a 214,000 acre-foot capacity multiple-purpose reservoir at the Vaquero site on the Cuyama River be approved and funds appropriated for such construction.

In addition to the views of the State engineer and the Water Resources Board, I will state that Governor Warren—it has been reported at least in the paper—has sent telegrams to Senators Kuchel and Knowland, Secretary of Interior McKay, and Director of the Budget Mr. Dodge, pointing out the critical situation of the water supply in the Santa Maria River and expressing the hope that active steps can be taken to relieve our situation.

In 1948 there was an economic survey prepared by people employed by the Santa Maria Valley Water Conservation District. I have given a copy of this survey to Mr. Carr. I would ask leave to have it placed on file; I don't think it necessary to make it a part of the record. I would ask it be placed on file.

Mr. D'EWART. It will be included in the record for reference purposes.

Mr. TWITCHELL. I will be glad to answer any questions any members of the committee may have.

Mr. D'EWART. Are there any questions?

Mr. ASPINALL. I have no question. I would like to say this. The presence of these men here in this hearing remind me of the very fine experience that some of us have had with them, when we visited the valley in 1951.

I think they have presented a very admirable case in a very admirable manner.

Mr. D'EWART. Mr. Saylor.

Mr. SAYLOR. No questions.

Mr. YOUNG. I would like to ask a question, Mr. Chairman. What are the mechanics of organizing repayment? Do the people out there have to vote for it?

Mr. TWITCHELL. That is right.

Mr. YOUNG. They haven't as yet.

Mr. TWITCHELL. No. The bill which provides for benefit tax based upon benefits is still pending before the State legislature. I am quite sure it will be passed by this session and be signed by the Governor and become effective this coming September. We of course hope that this project may be authorized, in this session of Congress, and if it is, we will immediately start work negotiating a repayment contract with the Bureau of Reclamation, and after that contract has been negotiated, we will than have a legal vote within the District authorizing the directors of the district to sign the repayment contract, and assuring the Government of repayment of the costs. After that has been done, we would then come to Congress and ask for appropriations, when you gentlemen would feel that expenditures are justified in view of the national budget.

We understand you have budget problems.

Mr. YOUNG. There is an ad valorem tax in Santa Maria and Guadalupe?

Mr. TWITCHELL. That is correct. That would reduce the acreage cost to the landowners very materially. We have not calculated nor have we arranged a specific program which would indicate just how much would be paid by the land west of the city of Santa Maria for the amount paid by the land east of Maria nor by the people who own land in those cities. It is my thought, and I believe it will be approved by the directors, that we should retain some engineer from the Los Angeles area where they have had comparable situations and have him analyze our situation and come up with some figures which would indicate what would be an equitable apportionment of our cost.

Mr. YOUNG. That is all.

Mr. ENGLE. Just one question that I would like to ask Mr. Twitchell. It is with reference to this 160-acre limitation. I have the language here, which is the result, I think, of your draftmanship and has been referred to in your testimony: what you have is a situation in which the benefits are wholly underground. Isn't that correct?

Mr. TWITCHELL. Yes. That is right.

Mr. ENGLE. And from the standpoint of physical fact, there would be no way of preventing the landowners west of Santa Maria from participating in the benefits, if the dam was built. Isn't that true?

Mr. TWITCHELL. That is correct.

Mr. ENGLE. In other words, their pumps are down and if the water level is raised, they are in anyway.

Mr. TWITCHELL. They are going to benefit by it and we cannot withhold the water from them.

Mr. ENGLE. As I understand their position, they have said this: "We are willing to throw in with everybody else and help to pay for this project."

Mr. TWITCHELL. That is correct.

Mr. ENGLE. It is true, is it not, that in the absence of their participation, there would be grave doubts as to the other areas?

Mr. TWITCHELL. It would impose a tremendous burden on the other area to pay the bill without their assistance.

Mr. ENGLE. It would be almost impossible for them to handle it. You have a situation where you have an underground water supply, where the larger landowners are willing to get in and pay, but they don't want to be in the position of having to break up these land ownerships.

Mr. TWITCHELL. That is correct.

Mr. ENGLE. As I understand the amendment you have drafted, it says, in effect, they will not be required to sign a recordable contract that they will sell their lands but they will be required to sign a recordable contract that after this program goes into effect, they will not, by any action they take, create a new excess ownership.

Mr. TWITCHELL. That is the purport of the language of the proposed amendment.

Mr. ENGLE. That excludes descent, devise and natural inheritance?

Mr. TWITCHELL. That is right.

Mr. ENGLE. Otherwise you have essentially tailored, having essentially abolished the 160-acre limitation you have tailored it to fit the peculiar circumstances of this situation?

Mr. TWITCHELL. That is right.

Mr. YOUNG. What would happen if nothing was done with regard to the 160-acre limitation? Is this merely to remove something on file? It seems to me anyone would have a pretty hard time going in and questioning their right to do this.

Mr. ENGLE. We think it would be extremely difficult to enforce the 160-acre limitation. How in the world would you figure it out?

Mr. YOUNG. That is what I was wondering.

Mr. ENGLE. The 160-acre limitation was never designed to apply to underground waters. We all know that. As I said the other day, when Mr. Harrison had his bill up, and I am sorry he is not present at the moment, and although he was here earlier, because he would be very much interested in this discussion. This kind of case involves the flexibility which we referred to in connection with the situation he had the other day before this committee involving the State of Wyoming, but just to get out of the hassel or any possible argument about how the thing will operate, we have written some language which defines how it will operate.

Mr. YOUNG. You say the big landowners are willing to go along. Is there anything that they can do but go along if the conservancy district goes ahead with the project?

Mr. TWITCHELL. Yes. This bill which we have submitted to the State legislature provides that before any election is called there is a hearing before the board of directors, and if a majority of the land within the area objects to the project, they can't even submit to a vote.

Mr. YOUNG. The majority of the land in acres?

Mr. TWITCHELL. That is right.

Mr. YOUNG. It is almost essential then.

Mr. TWITCHELL. Yes. I would say this further: After all, the members of this committee are far more familiar with this than I am, but it has certainly been my observation that if we came back here

and asked for appropriations and two large landowners came before the Appropriations Committee and submitted their problem and objected to the project, I would say our chance to get an appropriation would be very slim.

I feel they must go along or else we will not have a project.

Mr. D'EWART. Thank you very much.

Mr. ENGLE. That was an excellent statement, Mr. Twitchell. We appreciate it.

Mr. D'EWART. Mr. Dixon, would you like to conclude?

STATEMENT OF J. W. DIXON, DIRECTOR, PROJECT PLANNING DIVISION, BUREAU OF RECLAMATION

Mr. ENGLE. Mr. Dixon, in order to facilitate your testimony, I would like to ask you one question. I realize that the budget has not as yet passed on this project, although the matter is pending over there.

Mr. DIXON. That is right.

Mr. ENGLE. Because that is true, due to the limitations of policy, you are not in position to volunteer a statement in regard to the Department's position, but you may answer a question, a direct question, on that subject, if it is asked you, so I want to ask you whether or not it is true that the Interior Department has transmitted a favorable report on this project to the Bureau of the Budget for its consideration and approval?

Mr. DIXON. The Secretary of the Interior, on April 25, sent his report to the Bureau of the Budget and asked the relationship of the project to the program of the President. The report did recommend, in answer to your question, a favorable action, but, of course, the Secretary of the Interior has not been committed in any way, and cannot be committed by me or anyone else until he receives the advice of the Bureau of the Budget.

Mr. ENGLE. We realize the policy limitations in connection with that question and the committee does like to be advised as to what the Secretary thinks about it, and you do have the report prepared, do you not?

Mr. DIXON. I do, the report of the regional director.

Mr. ENGLE. I will ask in response to my direct request that the report be filed with the committee for our information.

Mr. DIXON. Yes, sir.

Mr. D'EWART. Without objection, the report will be filed with the committee for reference.

(The report was submitted for the committee files.)

Mr. DIXON. Mr. Chairman, there are also other documents related to the project; not the final ones of the Secretary of Interior McKay to the Bureau of Budget, of course, because those are still within the executive department. There are, however, certain other documents related to this, related to the regional director's report, that I think would be helpful to the committee and appropriate and they are the comments of the Department of the Army, the Department of Commerce, the Federal Power Commission, the Federal Security, and the Department of Agriculture and the State of California.

Mr. DIXON. The report of the State engineer, part of which was read by the former witness, Mr. Twitchell, is a rather long document.

It is 34 pages. However, in the last 5 or 6 pages there are conclusions and recommendations. It might be that you would want to file the whole report with the committee but include in the record those conclusions and recommendations so you would all have them readily available. We don't have enough copies of this.

Mr. D'EWART. Without objection, the State engineer's report will be filed for reference and the last six pages at the conclusion will be made part of this record.

(The conclusions and recommendations follow:)

The following conclusions are submitted with reference to the proposed report of the Secretary of Interior entitled, "Santa Maria Project, Southern Pacific Basin, California:"

1. The water supply situation in the Santa Maria River Basin is critical and steps should be taken immediately to relieve the water shortage in that area.

2. The ultimate annual net water uses in the Santa Maria River Basin are estimated to be about 85,000 acre-feet in the Cuyama Valley and 220,000 acre-feet in the Santa Maria Valley.

3. The overdraft on the ground water of the Santa Maria Valley under present conditions is estimated to be from 35,000 to 50,000 acre-feet per year instead of the 14,000 acre-feet per year stated in the report under review.

4. Floodwaters of the Santa Maria River are wasting into the Pacific Ocean in certain years. In the period 1941–51 flows into the ocean have been zero to 183,000 acre-feet annually, with an average over the 11-year (1941–51) period of about 26,000 acre-feet per year.

5. The urgently needed supplemental water supply can be provided in part by the construction of surface-storage reservoirs and their operation in conjunction with the ground-water basins.

6. The proposed Vaquero Reservoir with a space of 80,000 acre-feet allocated to conservation storage and 45,000 acre-feet allocated to silt storage, is estimated to provide an average annual new water yield of 18,500 acre-feet which could be utilized in the Santa Maria Valley which contains about 47,000 acres of presently irrigated land and a net irrigable area of about 100,000 acres. This new water yield must be determined under conditions of actual operation and may vary from the amount estimated. Other means may be available for increasing ground water recharge if percolation from the river channel is less than estimated.

7. Future increases in irrigation development in the Cuyama Valley could by using additional amounts of ground water and surface flow, materially affect the flows to the proposed Vaquero Reservoir and thereby reduce the estimated annual yield of that reservoir in new water for irrigation and other uses.

8. The city of Santa Maria and developments in the flood plain of the Santa Maria River should be protected adequately from damage from future floods in that stream.

9. The proposed Vaquero Reservoir with an allocated space of 89,000 acre-feet for flood control would reduce floods having a peak flow of 230,000 second-feet to 150,000 second-feet. This flow could be confined within the river channel by the levee system proposed in the report. This levee system, combined with the operation of the Vaquero Reservoir, would adequately protect the city of Santa Maria and other lands and developments in the flood plain.

10. The structures proposed in the report under review comprising the Vaquero Dam, levee systems along the Santa Maria River and Bradley Canyon and works appurtenant thereto, are engineeringly feasible of construction and the estimated costs appear to be reasonable based upon preliminary plans, and prices as of October 1950. Construction costs and cost of water to the irrigators should be revised to the present price basis.

11. Geologic investigations indicates that a safe dam of the type proposed can be built at the Vaquero site. However, careful consideration should be given to conditions existing at the site in designing the dam in order to assure its safety.

12. Further studies and investigations should be made with reference to the method or methods of distribution and utilization of the floodwaters which would be conserved and regulated in the Vaquero Reservoir.

13. The charge for water service should be such that the water users at the end of 40 years, or other period, will have paid all charges allocated to conservation so that they may at that time acquire the project works by and through the necessary congressional action.

14. A district should be formed with taxing power adequate to provide the sums necessary for payments to the United States as they become due.

15. Supplemental water supplies in the amount of 35,000 to 50,000 acre-feet per year are required to meet the present overdrafts, and about 300,000 acre-feet per year will be required to meet ultimate needs in the Santa Maria River Basin. The portion of these water supplies not provided by the development of local sources could be secured by and through the Feather River project.

16. Federal legislation authorizing the project should expressly provide that the Federal construction and contracting agencies proceed in conformity with the laws of the State of California relating to water and water rights.

17. The excess of from $37 to $68 per net irrigated acre of repayment capacity over required annual payments for conservation benefits for lands in the Santa Maria Valley service area, based on the October 1950 prices, indicates ample repayment capacity for the conservation portion of the Vaquero Reservoir as estimated in the report. The repayment capacity would probably be adequate if the cost estimates are revised to the present price basis.

18. While the proposed method of repayment to the United States of that portion of the reservoir cost allocated to water conservation by an ad valorem tax on the area benefited appears at this time to be the only practical one, study should be made to determine some more equitable method due to probable unequal ground-water benefits resulting from project operation.

19. Details of State highway relocations and revisions, and possible participation by the State in such revision, should be adjusted by conferences between the California Division of Highways, the Corps of Engineers, and Bureau of Reclamation, after the project has been authorized, and as plans for it materialize.

20. The investigations requested by the California Department of Fish and Game in its comments contained herein should be made in order to resolve the issues involved.

RECOMMENDATIONS

It is recommended that—

1. The plan of levee and channel improvements proposed by the Corps of Engineers, Department of the Army, for flood control in the Santa Maria Basin be adopted and approved and an appropriation made for the construction of these works.

2. The construction of a 214,000 acre-foot capacity multiple-purpose reservoir at the Vaquero site on the Cuyama River be approved, and funds appropriated for such construction.

3. In view of the design of the proposed Santa Maria River leveee and channel improvements to a capacity of 150,000 second-feet, which is 50 percent larger than any flood of record, consideration should be given to appreciably increasing the amount of storage space in the Vaquero Reservoir allocated to conservation use, with the proposed levee and channel improvements remaining the same.

4. Some provision for sediment control to prevent filling of Vaquero Reservoir be incorporated as an initial feature of the proposed Santa Maria project.

5. Federal legislation authorizing the project expressly provide that Federal constructing and operating agencies for this project proceed in conformity with laws of the State of California relating to water and water rights.

6. Contracts between the United States and local interests provide among other things for the inclusion in the water rates or charges of sums for operation and maintenance of project works and for repayment of capital costs of such works on a noninterest bearing basis in 40 years, or other period, and that such contracts provide for the acquisition by the local interests and water users of the project works and water rights by and through the necessary congressional action.

7. Consideration be given to the advantages of repaying the reimbursable cost of the conservation features to the Federal Government in a lump sum.

8. Consideration be given to the comments and views of the California State highway engineer, set forth in his letters dated June 22 and August 17, 1951, to the district engineer, Corps of Engineers and regional director, region 2, United States Bureau of Reclamation, respectively, which are quoted in this report.

9. Consideration be given to the comments and recommendations of the director of the State department of fish and game contained in his communication dated November 12, 1952, and included in this report, which comments are also submitted in conformance with the provisions of Public Law 732, 79th Congress (60 Stat. 1080).

10. Consideration should be given to the comments and recommendations of the Director of the Department of Natural Resources, contained in his communication dated October 30, 1952, and included in this report.

FEDERAL POWER COMMISSION,
Washington, D. C., December 15, 1952.

Subject: Santa Maria project, Southern Pacific Basin, Calif.

Mr. MICHAEL W. STRAUS,
Commissioner, Bureau of Reclamation,
Department of the Interior, Washington, D. C.

DEAR MR. STRAUS: The comments herein with respect to the proposed report of the Department of the Interior on the Santa Maria project, Southern Pacific Basin, Calif., are transmitted in response to your letter dated September 10, 1952. Transmitted with your letter were copies of the Acting Commissioner's report dated August 12, 1952, approved by the Acting Secretary of the Interior on August 29, 1952, and the regional director's report of November 30, 1951. The transmittal of these comments is in accordance with the established procedures of the Federal Inter-Agency River Basin Committee.

The subject-report proposes a plan for water conservation and flood control for the Santa Maria Basin, Calif. The project plan would consist of a multiple-purpose reservoir at the Vaquero site on the Cuyama River about 6 miles upstream from its junction with the Sisquoc River, to be constructed by the Bureau of Reclamation; and levees and channel improvements along the Santa Maria River and Bradley Canyon, to be constructed by the Corps of Engineers. The proposed dam would be earthfill with a maximum height of 184 feet above stream bed. The gross capacity of the reservoir would be 214,000 acre-feet, of which 89,000 acre-feet would be reserved for flood control and the remaining 125,000 acre-feet for water conservation and storage of sediment. The capital cost of the proposed plan is estimated in the report to be $24,575,000, based on October 1950 price levels.

The Commission staff has reviewed the report and advises, in connection with its consideration of the possibilities for the development of power, that storage of water in the reservoir would be only for a few months following each rainy season, during which time releases for percolation into the river bed downstream would be made to replenish underground storage. For the remainder of the year, and throughout dry years, the reservoir would be empty. In addition to the foregoing conditions which are unfavorable to power development, the staff reports further that the stream flow is small in amount and very intermittent in character. The staff advises, therefore, that the power potentialities of the Vaquero Reservoir project are small and that they are not economically feasible of development.

The Commission appreciates the opportunity of reviewing and commenting on the report of your Department.

Sincerely yours,

THOMAS C. BUCHANAN, *Chairman.*

FEDERAL SECURITY AGENCY,
PUBLIC HEALTH SERVICE,
Washington 25, D. C., December 9, 1952.

Hon. MICHAEL W. STRAUS,
Commissioner, Bureau of Reclamation,
Department of the Interior, Washington 25, D. C.

DEAR MR. STRAUS: Pursuant to the policies and procedures established by the Federal Interagency River Basin Committee we have reviewed the Department of the Interior's report on the Santa Maria project, Southern Pacific Basin, Calif.

The purpose of this report has been to present a plan for water conservation and flood control for the Santa Maria Basin, Calif. The plan is the result of coordinated studies by the Bureau of Reclamation and the Corps of Engineers and the proposal is that each agency construct certain of the features in the dual purpose plan.

The proposed Santa Maria project consists of the Vaquero Dam on the Cuyama River and channel improvements on the Santa Maria River. The latter will provide flood control. The dam will serve flood-control and water-conservation purposes with a total capacity of 214,000 acre-feet of which 125,000 is for conservation and 89,000 for flood control. The conserved water will be used to replenish ground water bodies by making releases at a rate to insure percolation through the riverbed into the ground.

The Bureau of Reclamation would construct, operate, and maintain the Vaquero Reservoir on the Cuyama River. The Corps of Engineers would con-

struct the levees and channel improvements in the Santa Maria Valley and make necessary alterations of railway bridges and railroad bridge approaches. Local interests would operate and maintain the levees and channel improvements.

Although the principal vector of malaria in California, the Anopheles freeborni mosquito, has been collected on a limited scale in the area which would be benefited by this project, the likelihood of the transmission of this disease by mosquitoes appears very remote due to the virtual absence of malaria in this vicinity. Malaria, contracted by Armed Forces personnel in foreign countries, has been reported in recent months by military installations in Santa Barbara County, but to date there has been no indication of a resurgence of this disease there from this source. Such a resurgence, under favorable conditions, is not considered impossible.

Human encephalitis is not presently considered to be endemic to the area, although some cases have been reported in the two countries concerned. Of 2 cases reported from San Luis Obispo County this past summer, 1 was laboratory-confirmed and the history of this case indicates that the victim contracted the disease within the county. The principal vector mosquito of encephalitis, Culex tarsalis, occurs throughout the area involved.

Since the construction of the levee system and the improvements of the Santa Maria Channel might present certain conditions favorable to the production of mosquitoes a more detailed study of this portion of the project is considered advisable. Our California and Great Basin drainage basins office has requested a copy of the Corps of Engineers Report on Survey—Flood Control—Santa Maria River and Tributaries, California, dated June 15, 1951. We proposed to review this report and submit our comments in regard to the vector aspects to you and the Corps of Engineers.

There appears to be no conflict in your report with our water pollution abatement, water-supply and vector-control programs.

We appreciate your giving us the opportunity to review this report.

Sincerely yours,

M. D. HOLLIS,
Chief Sanitary Engineering Officer, PHS,
FSA member, Federal Interagency River Basin Committee.

UNITED STATES DEPARTMENT OF THE INTERIOR,
BUREAU OF RECLAMATION,
Washington 25, D. C., August 12, 1952.

The SECRETARY OF THE INTERIOR.

SIR: This is my proposed report on the Santa Maria project, Southern Pacific Basin, Calif. My report is based on and incorporates the accompanying report of the regional director, Bureau of Reclamation, Sacramento, Calif., dated November 30, 1951.

The report presents a plan for water conservation and flood control for the Santa Maria River Basin, Calif. The plan is the result of coordinated studies by the Bureau of Reclamation and the Corps of Engineers, and the proposal is that each agency construct certain of the features in the dual-purpose plan. This project is a component of the Department's comprehensive plan for Santa Barbara County described in House Document 587, 80th Congress.

The lack of an adequate water supply and the threat of floods endanger the economic stability of the Santa Maria Basin. Construction and operation of the Santa Maria project as herein proposed would provide adequate recharge of the now critically depleted ground-water reservoir underlying the Santa Maria Valley, provide municipal water for anticipated municipal and industrial growth, and remove the threat of extensive flood damage to the cities, industries, and agriculture of the valley. In addition, on the basis of our estimate of the water required to meet the average annual overdraft, 3,000 acres of presently unirrigated land could be brought under irrigation. The Geological Survey's estimate of the water required to meet the overdraft is slightly higher than ours. If the Survey's estimate is more nearly correct than ours the project will not support irrigation of the additional 3,000 acres, unless inexpensive spreading works utilizing Sisquoc River flood flows and Vaquero Reservoir spills are provided and there is institution of a program to improve irrigation efficiency throughout the Santa Maria Valley area. Whether or not such works will be necessary can be confirmed only after the project has been in operation for a period of time. It is not proposed to construct the spreading works until their need is definitely proven and even then they can probably be constructed by the local irrigation district. The program to improve irrigation efficiency should be instituted in any event. There is immediate need for the project to prevent the return of

some 8,000 irrigated acres to dry farming, to arrest the constantly increasing cost of pumping, to remove the threat of salt-water intrusion into the basin, and to substantially reduce flood damages which average $710,000 annually.

The above project accomplishments would be effected through construction and operation of the proposed 214,000 acre-foot Vaquero Reservoir on the Cuyama River coupled with construction of levee and channel improvements in the Santa Maria Valley. The Bureau of Reclamation would construct, operate, and maintain the Vaquero Reservoir. The Corps of Engineers would construct the levee and channel improvements in the Santa Maria Valley and make necessary alterations of railroad bridges and railroad bridge approachments. Local interests would operate and maintain the levee and channel improvements. The proposed works are estimated to cost $24,575,000, on the basis of October 1950 price levels, of which $10,770,000 is allocated to water conservation and would be repaid by the beneficiaries and $13,805,000 is allocated to flood control and is nonreimbursable. The operation and maintenance expenses, under conditions of full development and including a reserve for replacements, are estimated at about $91,000 annually, of which about $44,000 is for works to be operated and maintained by the Federal Government.

The Santa Maria project has engineering feasibility. No unusual construction problems are anticipated. The reservoir would detain the Cuyama River flows during periods of waste flow to the ocean and subsequently release the conserved water at rates equal to or less than the percolation capacity of the Santa Maria River Channel. All holdover storage would be maintained in the groundwater reservoir. No surface water delivery to the irrigators is contemplated.

The Santa Maria project is economically justified, producing benefits which exceed the costs in a ratio of 3.29 to 1.

The Santa Maria project is financially feasible. Local beneficiaries will be obligated to pay the $10,770,000 allocated to water conservation plus the operation, maintenance, and replacement expenses for the project works operated by the Federal Government. Repayment of this capital sum in 40 years plus the annual expenses would require an annual payment by the local interests of about $313,000 or $8.26 per irrigated acre. Local interests have indicated their willingness to assume this repayment obligation. The Bureau of Reclamation would contract with the existing Santa Maria Valley Water Conservation District or its possible successor for the required repayment. As the present district does not encompass the entire service area of the project, it must enlarge its boundaries or a new district must be formed. It is anticipated that a contract will be signed prior to initiation of construction.

I concur in and adopt the recommendations of the regional director as set forth in his report.

I recommend that you approve and adopt this report as your proposed report on the Santa Maria project, Southern Pacific Basin, Calif., and that you authorize me to transmit it in your behalf to the Secretary of the Army and to the State of California for their views and recommendations in accordance with the provisions of section 1 (c) of the Flood Control Act of 1944 (58 Stat. 887); to the State of California for the report and recommendations of the head of the agency exercising administration over the wildlife resources of that State in accordance with the provisions of the act of August 14, 1946 (60 Stat. 1080); and to interested Federal agencies for their views and comments.

Respectfully,

H. F. McPHAIL,
Acting Commissioner.

Attachment:

Approved and adopted: August 29, 1952.

JOEL D. WOLFSOHN,
Acting Secretary of the Interior.

UNITED STATES DEPARTMENT OF THE INTERIOR,
OFFICE OF THE SECRETARY,
Washington, D. C., April 25, 1953.

Hon. EZRA T. BENSON,
Secretary of Agriculture, Washington, D. C.

MY DEAR MR. SECRETARY: Thank you for Under Secretary Morse's letter of February 17, 1953, commenting on the proposed report of the Department of the Interior on the Santa Maria project, Southern Pacific Basin, Calif.

With regard to the proposed joint effort to look further into the coordinated program for best utilization of the resources of the watershed, I am very happy

to renew and strengthen the offers of assistance and cooperation expressed in the August 7, 1950, letter from the Bureau of Reclamation, region 2, assistant regional director Calland to Mr. Stephan W. Wyckoff, Director, California Forest and Range Experiment Station, United States Forest Service, Berkeley, and in Assistant Secretary of the Interior Warne's letter of August 28, 1951, to the Secretary of Agriculture.

As discussed in the above letters from this Office and the Bureau of Reclamation, any program for watershed improvement would not alter the need for the major flood-control and conservation works proposed by this Department and the Corps of Engineers. Should a coordinated upstream plan for the entire basin eventually prove desirable, there would be, as discussed in the Bureau of Reclamation's August 7, 1950, letter, no appreciable change in the requirements for the flood-control works now proposed by the Corps, as these works are designed for the control of maximum floods, and watershed improvement can be expected to have little effect on the magnitude of these maximum floods.

Likewise, any consideration of possible future changes in watershed conditions would not alter the conservation storage proposed for construction by the Bureau of Reclamation. This storage is designed to meet the immediate needs and desires of the service areas below the confluence of the Cuyama and Sisquoc Rivers. The proposed Vaquero Dam, which is to provide this conservation storage, is to be built so that it will have sufficient capacity economically to develop the required water supply and also provide for siltation. Should the contemplated watershed improvement result in a reduction in reservoir siltation, the effective life of the reservoir will be lengthened thus increasing the benefits to be derived. The value of these incremental benefits could be credited to watershed development.

In summary, a watershed-improvement program may be influenced by or profit from the presently proposed conservation and flood-control project, but it could not be considered a substitute for that project. For these reasons, it would be undesirable to delay further the authorization and construction of the storage or channel flood-control features.

This Department recognizes the value which a watershed-treatment program might be, and in accordance with the conference of our staffs on April 17, will be glad to cooperate in a determination of the relation of such a program to the conservation and flood-control reservoirs works which we propose, and to evaluate their relative effects. As was agreed, such analyses should not delay authorization of the works, for it can readily be done as a part of the definite-plans studies of the preconstruction work.

Accordingly, and consistent with your suggestion that I designate a representative to meet with a representative of your Department to outline a course of action, I am designating the regional director of the Bureau of Reclamation at Sacramento, Calif., or his designee, for this purpose.

Your cooperation in this regard is appreciated.

Sincerely yours,

DOUGLAS MCKAY,
Secretary of the Interior.

DEPARTMENT OF AGRICULTURE,
OFFICE OF THE SECRETARY,
Washington, D. C., February 17, 1953.

The honorable, THE SECRETARY OF THE INTERIOR.

DEAR MR. SECRETARY: In your behalf the Commissioner of Reclamation, in a letter dated September 10, 1952, requested my views on your proposed report on the Santa Maria project, Southern Pacific Basin, Calif.

In February 1951 this Department completed its "Report of Survey, Santa Maria River Watershed, Calif." This report was submitted to the Bureau of the Budget on March 26, 1952, with a request for advice as to its relationship to the President's program. In a preliminary statement of its views the Bureau of the Budget suggested that further study be given to our report in an attempt to resolve differences among the interested agencies, and to work out a coordinated plan for the best utilization of the resources of the watershed. On September 22, 1952, this Department notified the Bureau of the Budget that it stood ready to cooperate in a joint effort to develp a coordinated program for the watershed, and that to enable this to be accomplished it would defer submission of its report.

In view of the foregoing, and the fact that the joint effort suggested by the Bureau of the Budget has not yet been initiated, we recommend that submission of your report be deferred until the Department of the Interior, the Corps of

Engineers, the Department of Agriculture, and the State of California can agree upon a unified multiple-purpose plan for the Santa Maria Basin.

We believe that arrangements for the proposed joint undertaking should be made in the very near future and that the necessary coordination should be effectuated as quickly as possible. As a first step it is suggested that you designate a representative to meet with a representative of this Department for the purpose of developing a course of action by which such a joint undertaking may be initiated.

The opportunity afforded us to review this report is greatly appreciated.

Sincerely,

TRUE D. MORSE, *Under Secretary.*

UNITED STATES DEPARTMENT OF COMMERCE,
BUREAU OF FOREIGN AND DOMESTIC COMMERCE,
OFFICE OF INDUSTRY AND COMMERCE,
Washington 25, D. C., December 15, 1952.

Mr. MICHAEL W. STRAUS,
Commissioner, Bureau of Reclamation,
United States Department of the Interior,
Washington 25, D. C.

DEAR MR. STRAUS: This is with reference to your transmittal of the proposed report of the Department of Interior on the Santa Maria project, Southern Pacific Basin, Calif.

We have no major comments to make on this report. Our field offices inform us that it is needed in that area and that even with more conservative methods of calculating the benefit-cost ratio, the project appears economically sound.

Sincerely yours,

H. B. MCCOY, *Director.*

DEPARTMENT OF THE ARMY,
OFFICE OF THE CHIEF OF ENGINEERS,
Washington 25, D. C., January 29, 1953.

The COMMISSIONER,
Bureau of Reclamation,
Department of the Interior, Washington 25, D. C.

DEAR MR. COMMISSIONER: Reference is made to your recent letters to the Secretary of the Army and to the undersigned, enclosing for the information and comment of the Department of the Army, in accordance with section 1 of the Flood Control Act of 1944, copies of the report of the Department of the Interior on the Santa Maria project, Southern Pacific Basin, Calif.

Your report recommends a plan of improvement which provides for construction by the Bureau of Reclamation of a multiple-purpose reservoir for flood control and water conservation at the Vaquero site on Cuyama River, and for construction by the Corps of Engineers of levee and channel improvements in the Santa Maria Valley. On the basis of October 1950 prices, the cost of the reservoir is estimated at $14,300,000 and the levee and channel improvements at $10,275,000. This plan is the result of coordinated studies made by field offices of the Bureau of Reclamation and the Corps of Engineers. As you know, a report by the Corps of Engineers is now being prepared for submission to Congress, which is compatible with your proposals.

Although the methods of economic analysis used by our two Departments differ somewhat as to details, both reports show substantial justification for the recommended improvements. As suggested in your letter transmitting the report, conferences have been recently held between field representatives of the two Departments to arrive at a common basis for estimating the costs and benefits of the project. Word has just been received that agreement has been reached on all phases of the analysis.

Accordingly, I am pleased to concur in your recommendation for construction of the Vaquero Reservoir and levee and channel improvements in the Santa Maria Valley.

It is also a pleasure to point out that the close coordination which has been maintained between our field offices during the preparation of the reports on the Santa Maria is an example of the sound planning for development of the Nation's resources which can be achieved through interagency cooperation.

Sincerely yours,

S. D. STURGIS, Jr.,
Major General, Acting Chief of Engineers.

Mr. ENGLE. May I suggest at some subsequent time these documents will all be printed as House documents depending on the action of Congress. Ordinarily, when the Secretary's report is finally transmitted up with the clearance of the Budget, it becomes a House document; so we will get those in printed form finally anyway.

Mr. DIXON. That would be the normal procedure, Congressman Engle.

In order to give the committee at this time, however, a quick look into the nature of the comments, I would like to state that the State of California, as Mr. Twitchell has indicated, recommends approval and appropriation of funds. The Department of Commerce says that the project is needed and is economically justified. I am using 4- or 5-word summaries of whole letters or documents for your convenience.

The Department of the Army concurs in the plan and recommends Vaquero Reservoir and the levees. The Federal Power Commission is favorable to the project and agrees with the Department that there is no power potentiality in the Vaquero Reservoir. The Federal Security Agency is favorable, and indicates that the project does not conflict with their program. The Department of Agriculture recommended deferral of submission of the report in order to make a coordinated watershed investigation and report subsequently.

A conference with the Department of Agriculture was held and I am able to report to you that as a result of that conference, the two Secretaries have come to an agreement, I think that it can be firmly said, for the staffs have agreed and the Secretary of Interior has replied to the Secretary of Agriculture on the basis of the agreement that the upstream watershed program can be coordinated with the other developments subsequent to authorization and during the preconstruction period. I have also included for the record, with your permission, Mr. Chairman, the reply from the Secretary of the Interior to the Secretary of Agriculture to that effect.

In closing, I would like to say that the Vaquero Reservoir, as we see it, and I think you quite well understand it from the very excellent testimony that has been given before, is a conservation reservoir with the multiple purpose, the added feature of flood control.

That flood control contributes to rather than replaces the flood control which is needed from by the levee system of the Corps of Engineers. I would like to add only one technical comment; I suppose an engineer can't resist one technical comment, even if he is here for another purpose. It has been brought out, but I don't think too clearly emphasized that the floods that they have in the Santa Maria Basin are quite different from the floods that we have in the eastern part of the country. When a flood recedes in the East, generally the farmer has a mess on his hands, he has to get out and repair fences, but he can put his land back in production. When the Santa Maria has a major flood the land is gone. It just is like flour and washes away. As one witness said, the land that was destroyed in the bad flood of 1889 is now back as far as pasture land.

It takes decades to get it back again.

Mr. Chairman, may I raise one other point?

Mr. D'EWART. Yes.

Mr. DIXON. There was discussion a few moments ago with regard to the acreage limitation question and a proposal by Congressman

Engle, I think, for language to be inserted in the bill. I haven't seen that language. Might I ask, recognizing that the Department is aware of this problem, might I ask the permission of the committee to have the language referred to the Department for consideration? It would be very helpful. I am sure it would be helpful to try to clear it in that manner.

Mr. D'EWART. You will have an opportunity to look it over before this gets to the full committee.

Mr. DIXON. Thank you very much.

Mr. D'EWART. One question, Mr. Dixon, as an engineer: The cost of this overall storage is $79 an acre-foot. The cost for storage for the irrigation part of the water that would be available for irrigation is $200 per acre-foot. Do you consider that a reasonably satisfactory cost for storage?

Mr. DIXON. I am unable to check mentally the actual figures you have just given, but assuming it is $200 per acre—per acre-foot?

Mr. D'EWART. Per acre-foot; the total cost of the reservoir is 16,982,000; the amount that is for conservation and storage, that is irrigation water, is 80,000; 80,000 to 16 million is $200.

Mr. DIXON. You mean per acre-foot of capacity in the reservoir?

Mr. D'EWART. That is right.

Mr. DIXON. In view of the value of the water to the downstream areas, I would think that is quite all right.

Mr. D'EWART. Do you have any figures as to what the average cost of a reclamation project per acre-foot for storage is?

Mr. DIXON. I don't have it in mind. That is higher than it would be if it were in an area where there was snowmelt runoff. We have to have a larger reservoir to catch these intermittent floods.

Mr. D'EWART. Two hundred dollars is only for that part of the water which is available to irrigation?

Mr. DIXON. Yes. You catch the intermittent floods and use them for irrigation purposes.

Mr. D'EWART. That is all you get any money back on?

Mr. DIXON. Yes.

Mr. ASPINALL. Are you relating this to the annual acre-foot storage?

Mr. D'EWART. Capacity of the reservoir.

Mr. ENGLE. There is a fixed capital investment of $200 an acre-foot which you amortize over a period of 40 years.

Mr. ASPINALL. Which, as I understand, must be considered in the prospective life of the project together with the number of crops which are produced on the area served.

Mr. ENGLE. Yes.

Mr. D'EWART. The overall cost, figuring in silt control and flood control, and so forth, figures out $79.

That is a substantial figure and probably nearer the ordinary cost. Did you have a comment, Mr. Hamilton?

Mr. HAMILTON. Yes, if I may be permitted, Mr. Chairman, I would like to make this observation: That it is rather difficult in this particular project to make a straight across-the-board storage comparison, because we do not make our storage at Vaquero Reservoir. We use Vaquero Reservoir as a detention reservoir so we have actually available to us somewhere between 300,000 and 500,000 acre-feet of ground storage. Vaquero Reservoir is just a trap arrangement.

Mr. ENGLE. In other words, you have an underground storage on which you don't have evaporation losses?

Mr. HAMILTON. That is right.

Mr. D'EWART. Does that complete your statement?

Mr. DIXON. Yes, sir.

Mr. ASPINALL. Mr. Chairman, has this committee been furnished with a statement of the amount of moneys used to date which could be designated as investigational survey moneys?

Mr. DIXON. I think not on this.

Mr. D'EWART. Have you that figure, Mr. Hamilton?

Mr. DIXON. We will get that figure for you.

Mr. HAMILTON. I didn't get the question. I am sorry.

Mr. ASPINALL. The amount of money which have been expended to date which might be designated as investigation or survey moneys.

Mr. HAMILTON. It shows by actual accounting $250,000. Part of that has already been compensated for by money paid out by the county, and to the amount, I believe, of $70,000.

Mr. ASPINALL. What is the investment of the Federal Government so far in this project?

Mr. HAMILTON. The Federal Government, approximately $170,000.

Mr. ASPINALL. That covers all of the work that has been done to date?

Mr. HAMILTON. Yes.

Mr. YOUNG. Is that considered part of the $17 million cost?

Mr. D'EWART. That is right. That is charged against the project. That is customary.

Mr. DIXON. If the project is built that is repaid by the water users.

Mr. D'EWART. Thank you, Mr. Dixon.

Is there any objection to reading the bill for amendment?

Mr. DIXON. Mr. Chairman, might I also introduce for the record the telegram that was referred to from Governor Earl Warren? It was received April 16. I won't read the whole telegram but he says in conclusion:

> I shall therefore appreciate your earnest consideration of the problem and your assistance in facilitating the earliest possible authorization of the Santa Maria Project.

Mr. D'EWART. Without objection, that will be made part of the record.

(The telegram referred to is as follows:)

SACRAMENTO, CALIF., *April 16, 1953.*

Hon. DOUGLAS MACKAY,
Secretary of the Interior, Washington, D. C.:

In accordance with the provisions of Public Law 534, 78th Congress, 2d session, the Director of Public Works, State of California, forwarded to the Secretary of the Interior on December 31, 1952, the report of the Division of Water Resources, State of California, covering the proposed report of the secretary of the Santa Maria project, Southern Pacific Basin, Calif., approved August 29, 1952.

I am advised that the secretary's report has been returned to him by the Bureau of the Budget in order that it may be presented to the House of Representatives for congressional authorization. In view of the fact that the water supply situation in the Santa Maria River Basin is critical, authorization of the project is a matter of the greatest urgency. As our division of water resources has pointed out, the overdraft of ground water of the Santa Maria Valley under present conditions is from 35,000 to 50,000 acre-feet per year. Flood waters of the Santa Maria River are wasting into the Pacific Ocean in certain years and should be conserved. The urgently needed supplemental water supply can be

provided in part by the construction of surface storage reservoirs and their operation in conjunction with the ground-water basins. I shall therefore appreciate your earnest consideration of the problem and your assistance in facilitating the earliest possible authorization of the Santa Maria project.

EARL WARREN, *Governor.*

Mr. D'EWART. Without objection, H. R. 2235 will be considered read and open for amendment. Are there any amendments?

Mr. ENGLE. I offer an amendment as a substitute for section 1 which I will read as follows.

Mr. D'EWART. Your purpose is to delete section 1 and substitute this one?

Mr. ENGLE. That is right. Strictly speaking, I should say I move to strike section 1 and substitute the following language. Section 1 has been redrafted to include the item in regard to the acreage limitation, and rather than continue with one word here and one there, it was considered more practical from a drafting standpoint to redraft the section. So the section would now read as follows, and when I come to the new language, with reference to the 160-acre limitation, I will call your attention to it.

That, for the purposes of conserving and making available for irrigation use waters of the Santa Maria River, California, and of controlling floods and for other beneficial purposes, the Secretary of the Interior is authorized to construct, operate, and maintain the Vaquero Dam and Reservoir and other conservation features of the Santa Maria project, all in substantial conformity with the report of the Department of the Interior thereon dated January 16, 1953, and in accordance with the Federal reclamation laws (Act of June 17, 1902, 32 Stat. 388, and Acts amendatory thereof or supplementary thereto): *Provided*—

and I come now to the part that has the essentials in it—

that in view of the special circumstances of the Santa Maria project, in lieu of requiring compliance by any contracting organization with the provisions of the third sentence of section 46 of the act of May 25, 1926 (44 Stat. 636, 649), or any other similar provision of the Federal Reclamation laws—

which by the way is the land irrigation law—

the Secretary shall require said contracting organization to secure the execution, prior to commencement of construction of the project and in form satisfactory to the organization and the Secretary, of valid recordable contracts by the owners of irrigable lands within the organization's boundaries pursuant to which each such owner agrees that disposition of his lands will not be made to any person whose acquisition of the same, when added to lands then held by him, will cause that person to hold in excess of 160 acres within the project area. The terms "acquisition" and "disposition" shall not, for the purposes of this act, be held to include acquisition or disposition by descent, by devise or gift to a member of the devisor's or donor's immediate family, by operation of a tenancy by the entireties, joint tenancies by foreclosure or other process of law or, in the case of a corporate landowner existing on the date of this act, by merger with another such owner.

That is the end of it. What this actually does is say in effect that after this contract is recorded, that no landowner in the district, shall, by his own actions, create an excess ownership. In short, it freezes them. Now it excepts operations under wills and under the laws of succession and foreclosures beyond the control of individuals, and mergers under corporate entities, of which I understand there is only one major one in the whole area. I do not know who they would merge with unless they found somebody else, but the purport of the amendment is to tailor—not to abolish the 160-acre limitation—but to tailor it to peculiarities in this area, for bidding excess ownerships after this excess water is made available to the area and reasons for it

have been previously emphasized by Mr. Twitchell, namely, that this is an underground water supply, on which the large owners would in the very nature of the case, if the project was built, would participate anyway and in their absence the project would not be economically, or I would say financially feasible.

With that explanation, unless there is some question, Mr. Chairman, I offer the amendment.

Mr. DAWSON. Mr. Engle, in line with the suggestion of Mr. Dixon, wouldn't it be advisable to let them look this amendment over before offering it?

Mr. ENGLE. I am going to put it in and if they have anything to say about it, it is my idea that if this bill is moved out of subcommittee—and I want to mention that briefly for a few minutes, that we will see what they have to say about it before it comes before the full committee.

Certainly we want to know what they think about it and I certainly agree that the committee ought to be advised what the Department thinks about it; whether or not the Department should legislate for us is another matter, depending on of course how good their reasons are, if they have some objection to this language.

Mr. DAWSON. May I ask the chairman is it your intention to move to take this out of subcommittee at this time?

Mr. D'EWART. Yes.

Mr. DAWSON. You want to take action on it?

Mr. D'EWART. Yes.

Mr. ENGLE. We thought we could move it out of subcommittee, and I want to know what you think about it. The budget hasn't acted an you probably all agree with me that it is going to be pretty difficult to get anywhere until the budget has at least had a reasonable opportunity to look at the bill.

We will hold the bill before the full committee which will pass on it anyway.

Mr. Dawson. In view of some questions raised by various members of the subcommittee, it seems to me that it might be better to wait until you could get a quorum here.

Mr. D'EWART. That was why I asked a few minutes ago was there any objections to considering the bill, reading it at this time.

There was no objection whatsoever. Only then did we start to read the bill.

Mr. DAWSON. I have no objection to reading the bill.

Mr. D'EWART. That is why the bill is read. We want to offer it for reporting to the full committee.

That is the only reason for reading the bill.

Mr. DAWSON. I just assumed you were reading it for amendment and when we came to the time of actually considering it for passage I would have an objection.

Mr. D'EWART. I agree with Mr. Engle that any action we take now is subject to review by the full committee. The report by the Department of the action taken and an amendment will be considered at that time; with that understanding only will we report this bill.

Mr. ENGLE. May I suggest we act on the amendment, unless there is some serious objection to it and then we will talk about what we want to do with the bill.

Mr. D'EWART. All those in favor of the amendment, say "aye." Opposed.

(No response.)

Mr. D'EWART. The amendment is adopted.

Now what is your pleasure.

Mr. SAYLOR. I move the bill as amended be reported to the full committee.

Mr. YORTY. Second.

Mr. D'EWART. With the understanding that we will review this amendment in the light of the report.

Mr. ENGLE. May I ask the clerk transmit this amended language adopted for section 1, to the Department for their comment. Since it has not been included, I assume although I believe the report refers to the problem, this does not deal with the specific language, so that the Secretary and Governor Aandahl will have a chance to see what we have done here.

Mr. D'EWART. You have heard the motion. All those in favor say "aye." Opposed.

(No response.)

Mr. D'EWART. It is so ordered.

Without objection, H. R. 2259 will be laid on the table.

I want to thank the witnesses for their being here and the splendid case you have made in this instance. We are very glad to have you here.

The committee will stand adjourned.

(Whereupon, at 1:55 p. m., the committee adjourned.)

SANTA MARIA PROJECT, CALIFORNIA

TUESDAY, MAY 19, 1953

HOUSE OF REPRESENTATIVES,
COMMITTEE ON INTERIOR AND INSULAR AFFAIRS,
Washington, D. C.

The committee met, pursuant to other business, in the committee room, New House Office Building, Hon. A. L. Miller (chairman) presiding.

Chairman MILLER. The next bill for consideration is H. R. 2235, by Mr. Bramblett, to authorize the Secretary of the Interior to construct the Santa Maria project, Southern Pacific Basin, Calif. I understand there is no Department report.

Mr. Engle.

Mr. ENGLE. Mr. Chairman, in support of that legislation by Mr. Bramblett, the reason I ask consideration, there is one party here from the regional office at our committee session today, Mr. John G. Hamilton, and if there are any questions, he can answer them, whereas later on it might not be possible.

This was considered by the Subcommittee on Irrigation and Reclamation and involves a project in Santa Maria and Santa Barbara Counties, in which the people of that county have undertaken to form a district to underwrite, on the tax base of the county, the repayment of obligation of this project over and within the period of 40 years, plus a 10-year development period. The benefit-cost ratio on this project is 3 to 1.

These people are not at the present time seeking immediate appropriations to build the project because they want to get their project into position so that when the Government, within the framework of its budgetary obligations, can again move ahead on the construction of these projects this will be in line for consideration.

I understand that a favorable report is pending in the budget and may be up here most any time. So any action taken by the committee at this time would be subject to the receipt of budget report, because it would not be sound tactics in my opinion to take this bill before the Rules Committee without an expression from the budget.

There was one amendment, I believe, adopted in the committee, Mr. Chairman. That is all the explanation I have unless Mr. D'Ewart has something to say about it.

Mr. D'EWART. The amendment has to do with the 160-acre limitation.

Mr. ENGLE. I ask unanimous consent that the bill be considered read, and open for amendment.

Chairman MILLER. If no objection, it is so ordered.

Mr. D'EWART. We have a substitute amendment for the amendment adopted in the subcommittee. But I must admit that I have

very grave doubts as to the subcommittee amendment we adopted, and I am glad to see a substitute adopted. I want to call attention to the committee that this is a substitute for the one adopted in the subcommittee.

Mr. ENGLE. Will you yield for one short explanation?

Mr. D'EWART. Yes.

Mr. ENGLE. We adopted an amendment in the subcommittee relating to the operation of the 160-acre limitation. This is entirely underground water supply to which the 160-acre limitation cannot be practically applied. So we wrote an amendment, satisfactory to people of that area, which in effect said that, although the 160-acre limitation should not apply, no one should go into a transaction which created an excess ownership. That language has been studied by people downtown, and they informally have come up with the conclusion that the mechanics of it would be so hard to administer it would almost be impossible.

Although I am the author, or at least I offered the amendment in subcommittee, I am prepared to back off of it, and Mr. D'Ewart has a substitute.

Mr. D'EWART. In fact, the amendment adopted in the subcommittee would put a cloud on everybody's title in that basin.

The substitute reads as follows: It goes on page 1, line 10, after the word "project" strike the period, add a semicolon, and add the following:

Provided, That, in view of the special circumstances of the Santa Maria project, neither the provisions of the 3d sentence of section 46 of the Act of May 25, 1926 (44 Stat. 636, 649) nor any other similar provision of the Federal reclamation laws shall be applicable thereto.

That simply means that the 160-acre limitation is not applicable to this act.

I move the adoption of the amendment.

Mr. ENGLE. Second.

Chairman MILLER. You have heard the reading of the amendment and a second was offered. Is there any discussion?

If no discussion, those in favor of the amendment signify by saying aye.

It is so ordered. That is a substitute for the one adopted in subcommittee.

Now the bill, as amended, I note carries an appropriation of $16,982,000, which makes it necessary to go to the Rules Committee. I understand the Interior report is before the Bureau of the Budget, and probably if this amendment is adopted the report will be approved by Budget.

What is the pleasure of the committee?

Mr. D'EWART. I would like to say this is a unique piece of legislation, different from any that has ever come before our committee.

Here is a reclamation project where we simply build a storage reservoir and nothing else. There is no distribution system, there is no pumping system, there is no power, or any of those features that we nearly always have in other projects. This water comes out of this reservoir and goes down to underground storage simply to replensih underground storage from which existing pumping facilities raise the water to irrigate land now under irrigation with the exception of a small additional acreage.

I think the project is unique, and I think it is a good project and one that should have the approval of this committee. Therefore, Mr. Chairman, I am glad to recommend that——

Mr. DAWSON. I would like to make a comment on this bill, if I may at this time.

Chairman MILLER. Mr. Dawson.

Mr. DAWSON. This bill is unique in another regard, too, in my opinion. I observe it calls for an appropriation of $16,982,000 for the reclamation features of the project, and they show the cost-ratio to be 3 to 1, or the direct benefits 1.87 to 1. Now I take it that those cost benefits just relate to the reclamation feature of this thing.

Now in addition to the reclamation money they are going to require an Army engineer's appropriation of just about 11 or 12 million, which, after they take off the nonreimbursable items, is just about the same amount they are paying back on reclamation. In other words, it is going to be double this amount before you are through.

By the time the Army Engineers put up levees and spend another 12 million, then your cost ratios are going to be just half of what they show here.

Mr. D'EWART. In reply to that, I would like to say that is a flood control project not before our committee, and one we do not have to approve.

Mr. DAWSON. I appreciate it is not before our committee, but, after all, we are all working for the same Government, and another committee is going to be required to make an appropriation of this additional amount to make this project operate.

Mr. ENGLE. Will the gentleman yield?

Mr. DAWSON. Yes.

Mr. ENGLE. I would like to call his attention to the fact that Mr. John Hamilton, who is here now in the audience, when he testified before this committee made it very plain that this project stands on its own feet. It is not necessary to build a flood-control project or the flood-control additions in order to make this project feasible and to pay out under the terms of the program that has now been established. These people in that Santa Barbara County will—and this is another unique thing about this—pledge their tax base to the liquidation of this obligation whether those levees are built or not.

If the Public Works Committee does not see fit to authorize those levees, they are not authorized. If they do, they are authorized like all other flood-control work on a nonreimbursable basis. And in that event these people out there put their tax base on the line and say, "We will pay her back."

Mr. DAWSON. Of course, we do that, too, on our reclamation projects.

Mr. ENGLE. You do not put up your tax.

Mr. DAWSON. We do in the conservancy districts. Our districts are obligated on their property to pay back this money.

Chairman MILLER. Flood-control money?

Mr. DAWSON. Not the nonreimbursables, but you are talking about the reimbursables that the property of the district is pledged to repay.

A district was just recently formed in Utah, the Weber Basin project. The conservancy district was formed and a tax levy set and the property is pledged for repayment of the cost of that reclamation project.

Mr. D'EWART. I think the committee can be assured that moneys advanced for this project by the Government will be returned in view of the value of the property it serves, in view of the conservancy type district which has been formed, and the pledging of the tax base.

Mr. DAWSON. I was here during the testimony on this bill and also heard Mr. Hamilton, but it was my impression these dikes by the Army engineers were strongly recommended and that they were practically essential to the project. Although Mr. Hamilton did say they could go along with their dam and bring the water in and get by without it. But there is no question but what if they could put the dam up there and bring the water down, they are going to come along with this flood-control project, and it is going to implement their supply of water, if I remember.

Mr. ENGLE. The flood-control project will not implement the supply of water, it will prevent the flash floods from coming down and sweeping the alluvial soil out into the ocean. Whether that is justified on its own basis or not is the subject of proper consideration by the Public Works Committee, but the testimony made it very plain this project stands on its own bottom.

Chairman MILLER. What is the pleasure of the committee?

Mr. D'EWART. I move it be reported favorably to the floor as amended and the chairman take such steps as are necessary to insure its passage, subject to a favorable report from the Department.

Mr. ENGLE. Second the motion.

Chairman MILLER. Any other comments?

If not, those in favor of the motion signify by saying "aye."

Contrary, "no"?

It is so ordered.

I call the attention of the committee to two bills we did not consider this morning, H. R. 1802 and H. R. 334. I believe the House is in session now. I would like to ask permission that these two bills go over until June 2, and also Mr. Harrison's bill, H. R. 4721. We will try to take those up at our next meeting.

Is there anything else which should come before the committee at this time?

If not, the committee will adjourn.

(Whereupon, at 11 a. m., the committee adjourned to reconvene at the call of the Chair.)

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